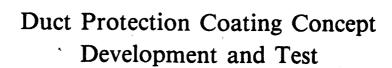
AEDC-TR-92-23 APPENDIX D, VOL. II







Appendix D, Volume II: Test Specimen Fabrication, Conditioning, and Testing Documentation

> C. David Newlander Mission Research Corporation Costa Mesa, CA 92626

> > January 1993

Final Report for February 1992



Approved for public release; distribution is unlimited.



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APPROVAL STATEMENT

This report has been reviewed and approved.

PAUL LACASSE, Capt. CF

Propulsion Division

Directorate of Technology

Deputy for Operations

Approved for publication:

FOR THE COMMANDER

KEITH L. KUSHMAN Director of Technology

Deputy for Operations

REPORT DOCUMENTATION PAGE

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cleaning/preparation interior of the AEDC layers of cleaning technical approaches. corrosion-free, clean techniques are strong	and corrosion resisenting resises in the control of	ram was to develop and test a s stant protective polymer coating for acility ferrous metal air supply ducts e to the AEDC were basically limit or abrasive blasting is used to proting steel substrates. These par basically "outlawed" at the AEDC fact, but requires a high pressure water steen ean up.	or the sed to oduce ticular silities.

14 SUBJECT TERMS coating steel subst	rates	polymer coat	ting si	apply ducts	15 NUMBER OF PAGES 277
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MRC-COM-R-92-0315

DUCT PROTECTION COATING CONCEPT **DEVELOPMENT AND TEST**

CONTRACT: F40600-89-C-0002

FINAL TECHNICAL REPORT (CDRL A002)

APPENDIX D: TEST SPECIMEN FABRICATION, CONDITIONING,

PART II: SETS I Through 28

15 February 1992

Submitted to: V

Arnold Engineering Development Center Arnold Air Force Station, Tennessee 37389-5000 ATTN: Captain Paul LaCasse/DOTR Dowe Jones/PKP

Submitted by:

Mission Research Corporation Survivable Structures Technologies Division 3505 Cadillac Avenue, Building H Costa Mesa, California 92626 C. David Newlander, Program Manager

Accesion For NTIS CRA&I DTIC TAB Unannounced Justification Ву _____ Dist. ibution / Availability Codes Avail and or Dist Special

DTIC QUALITY INSEPTIMENT 3

Set: I Sample: AS-4 Comments: o MARB-33 AS-4 Original (Most testing) o MARB 2 for hot hardness

Materials: MARB-33/ MARB2-33 o MARB2-33 + MARB2 for cold hardness o Primer only Cold non-cracking o wire brushed (lower 1/5th only)

Date	Action	Equip	Results/Comments
07/03/90	Acid clean	-	HCL cleaned
08/01/90	Acid clean	-	Reclean
08/01/90	Coat	-	Brush coat 4 formula sections
08/01/90	Cure	0	1 hr @ 480 F
08/02/90	1/4 hrs 0 -100 F	С	
08/02/90	1 hr 0 250 F	С	
08/02/90	15 hrs 0 130 F	H	
08/03/90	1/4 hrs 0 -90 F	С	
08/03/90	1/4 hrs 0 280 F	С	
08/06/90	1 hr 0 -100 F	С	
08/07/90	5 hrs 0 140 F	Н	
08/10/90	1 hr 0 -110 F	С	autocycle
08/10/90	1 hr # 600 F	С	autocycle

Set: I

Sample: AS-4

Comments: Page 2

Materials: MARB-33/MARB2-33

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

n	Antin	Couin	Doubte // Company
Date	Action	Equip	Results/Comments
08/13/90	1 hr 0 -100 F	С	Autocycle
08/14/90	1 hr 0 -100 F	С	Altered Autocycle
08/14/90	1/2 hr 0 600 F	C	Altered Autocycle
08/16/90	5 hrs @ 140 F	H	
08/17/90	1/2 hrs 0 20 F	Н	· · · · · · · · · · · · · · · · · · ·
08/17/90	3 hrs 0 130 F	Н	
08/20/90	16 hrs 0 160 F	Н	
08/21/90	1 hr 0 -100 F	C	
08/21/90	16 hrs 0 120 F	Ĥ	
08/22/90	1 hr 0 -100 F	С	Autocycle
08/22/90	1 hr 0 600 F	C	Autocycle
08/22/90	15 hrs 0 125 F	Н	
08/23/90	2 hrs/600 F	0	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I

Sample: AS-4

Comments: Page 3

Materials: MARB-33/MARB2-33

Date	Action	Equip	Results/Comments
08/23/90	15 hrs 0 125 F	Н	
08/28/90	22 hrs 0 125 F	Н	
08/29/90	5 hrs 0 600 F	0	
08/29/90	14 hrs 0 125 F	Н	Humid
08/30/90	4 hrs @ 600 F	0	
09/05/90	1 hr 0 -100 F	C	Autocycle
09/05/90	16 hrs 0 160 F	Н	
09/06/90	3 hrs @ 600 F	0	***************************************
09/06/90	15 hrs 0 125 F	Н	Humid to dry
09/07/90	1 hr 0 -125 F	С	Autocycle
09/07/90	1 hr @ 800 F	С	Manual HIGH heat
09/20/90	Test (Location 1)	A	>1050 No Failure knock off 35% clean Substrate/ 65% C
09/24/90	3 hrs 0 600 F	0	

Set: I Sample: AS-4 Comments: page 4

Materials: MARB-33/MARB2-33

Date	Action	Equip	Results/Comments
09/24/90	13 hrs 0 120 F	Н	
09/25/90	1 hr 0 487 F	0	
09/25/90	16 hrs 0 120 F	Н	·
09/26/90	3 hrs 0 600 F	0	
09/27/90	40 hrs # 120 F	Н	
09/29/90	Test (Location 2)	Α	1050 PSI (90% C; 10% A)
10/01/90	3.5 hrs 0 610 F	0	
10/01/90	16 hrs 0 120 F	Н	
10/02/90	1 hr 0 -100 F	C	
10/03/90	23 hrs 0 120/150 F	Н	
10/04/90	1 hr 0 -100 F	C	
10/04/90	1 hr 0 600 F	C	
10/04/90	15 hrs 0 120-160 f	Н	

Page 4

Set-Sample: 22R - AS4 Comments: Materials: MARB 45 2 Equip Definitions: See Page 1 1 5 Action Date Equip Results/Comments 03/12/91 16 hrs @ 115 F 03/14/91 Test (Location 4) >1000 PSI 03/19/91 3 hrs @ 610 F 0 dry 03/19/91 17 hrs 0 116 F Н 03/20/91 3 hrs @ 650 F 0 03/20/91 1 hr @ -100 F C 03/20/91 16 hrs 0 140 F H 03/21/91 1 hr @ -100 F C 03/21/91 1 hr @ 640 F 0 dry oven 03/21/91 16 hrs @ 140 F Н 03/22/91 1 hr 0 -100 F C auto 03/22/91 1 hr @ 640 F 0 dry heat 03/22/91 1 hr 0 -100 F 03/22/91 43 hrs @ 115 F 03/24/91 1 hr 0 -100 F C 03/28/91 Test (Location 5) A 550 PSI (50% C; 50% dolly) cold

MRC Fabrication/Conditioning/Test Form 91-1

Set: I Sample: AS-4 Comments: page 5

Materials: MARB-33/ MARB2-33

Equip Definitions: 0 - Oven; C - Heat/Cooling Chamber; H - Humidity Chamber; A - Adhesion Tester

Date	Action	Equip	Results/Comments
10/06/90	1 hr 0 487 F	0	
10/08/90	1 hr # -100 F	С	
10/08/90	1 hr 0 600 F	С	autocycle
10/08/90	20 hrs 0 120 F	Н	very humid
10/09/90	1 hr ● -100 F	С	
10/10/90	Test (Location 3 TR)	A	>1000 PSI (85% C; 15% C/I black oxide)
10/10/90	1 hr 0 -100 F	С	*
10/10/90	8 hrs • 350 F	0	
10/11/90	18 hrs • 120 F	н	very humid
10/19/90	65 hrs 0 100 F	Н	very humid
10/22/90	24 hrs 0 120/135 F	Н	very humid STOP TESTING
,	Top quarter of panel is	AS4 and	very rusty with coating failure
	Conclusion: Do not appl	y thick b	rush coats; Increase Aluminum content. See 22R- AS4 01/15/91

9

Page 1

5

2

1

Substrate/Preparation: 516/ light rusting

Materials: MARB-45

02/04/91 2.5 hrs 0 600 F 0 dry heat

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber;

	A = Adhesio	n Tester;	T = Misc Tests
Date	Action	Equip	Results/Comments
Formerly	I-AS4 (See form 90-1)	-	Gel clean and tape remove loose MARB
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45
01/17/91	1 hr @ 487 F	0	Cure slow to temperature
01/17/91	15 hrs @ 120 F	Н	very humid
01/18/91	28 hrs @ 120 F	Н	dry
01/19/91	1 hr @ -110 F	С	autocycle cold
01/19/91	1 hr 0 580 F	0	hot
01/21/91	1 hr @ -100 F	С	cold
01/21/91	2 hrs @ 600 F	0	hot
01/22/91	2 hrs @ 610 F	0	hot
01/22/91	1 hr @ -110 F	С	cold
01/22/91	16 hrs 0 115 F	Н	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	>1000 PSI (no failure)
01/30/91	1 hr 0 -110 F	c	cold
01/30/91	41 hrs 0 115 F	Н	very humid
02/01/91	1 hr 0 -110 F	С	autocycle
02/01/91	1 hr 0 600 F	C	autocycle

Set-Sample: 22R - AS4 Comments: Repair test

Materials: MARB-45

Equip Definitions: See Page 1

2	3		
1		4 5	

*******	++4000040000000000000000000000000000000		
Date	Action	Equip	Results/Comments
02/04/91	42 hrs @ 115-150 F	Н	very humid
02/06/91	2.5 hrs @ 58 F	0	
02/07/91	3 hrs @ 590 F	0	
02/08/91	1 hr 0 -100 F	C	autocycle
02/09/91	1 hr 0 -100 F	С	autocycle
02/11/91	1 hr @ -100 F	C	autocycle
02/11/91	2 hrs @ 620 F	0	dry heat
02/11/91	16 hrs @ 115 F	Н	
02/12/91	1 hr 0 -100 F	С	autocycle
02/12/91	2 hrs 0 600 F	0	
02/12/91	18 hrs @ 115 F	Н	
02/13/91	1 hr @ -100 F	С	
02/13/91	15 hrs 0 118 F	н	
02/14/91	1 hr 0 -100 F	C	
02/14/91	2 hrs 0 590 F	0	
02/14/91	16 hrs 0 120 F	Н	
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 2)	Α	800 PSI (90% C, 10% F) some failure
02/22/91	2 hrs 0 590 F	С	dry heat
02/22/91	19 hrs 0 115 F	Н	humid
02/25/91	2 hrs 0 600 F	0	
*******		•••••	

Set-Sample:	22R -	- AS4	Comments:
-------------	-------	-------	-----------

Materials: MARB 45

2	3	
1		4 5

Equip Def	1	5			
Date	Action	Equip	Results/Comments]	
02/25/91	1 hr @ -100 F	С	autocycle		
02/27/91	1 hr @ -100 F	C	autocycle		
02/27/91	2 hrs @ 350 F	0	dry		
02/28/91	1 hr @ -100 F	С			
02/28/91	2 hrs @ 600 F	0			
02/28/91	18 hrs @ 115 F	Н			
03/04/91	Test (Location 3)	А	750 PSI (100% C)		
	overlapped previous	coating d	olly location		
03/04/91	1 hr @ 487 F	0	dry oven		
03/04/91	1 hr @ -100 F	С	auto		
03/05/91	1 hr @ -100 F	С	auto		
03/05/91	1 hr @ 600 F	0	dry heat		
03/05/91	16.5 hrs @ 116 F	Н	humid		
03/08/91	1 hr @ -100 F	С			
03/08/91	2 hrs @ 600 F	0			
03/08/91	64 hrs @ 140 F	Н			
03/11/91	1 hr @ -100 F	С	*		
03/11/91	2 hrs @ 600 F	0	·		
03/11/91	17 hrs @ 115 F	Н			
03/12/91	1 hr @ -100 F	С			
03/12/91	1 hr @ 480 F	0	***********		
~~~~~			4		

4. Thin MARB Blend

Set: I Sample: ST-4 Comments:

Materials: 4 Silicones on A516-70 steel 1. 50% solids SR-240 3. 50% solids MARB Blend Acid cleaned

2. Thin SR-240

Date	Action	Equip	Results/Comments	
07/24/90	Acid clean	-	60% HCL/rinse	
07/25/90	Formulate	-	Silicone	1. SR240 thick cracking
07/26/90	Coat	_	Brush	4.over 2. + 2. worst scratch
07/26.90	1 hr 0 410 F	0	Bake	3. Thick resin blend cracking
07/27/90	Test at 250 F	E	Scratch	2.over 4. + 4. thin blend best
07/27/90	1 hr 0 40 F	Н		
07/27/90	0.5 hrs 0 10 F	н		
07/27/90	20 hrs 0 130 F	Н		
07/29/90	Test	E	Scratch	
07/30/90	2 hrs 0 -100 F	С	Cracking evident #1 &	#3
07/31/90	1 hr 0 480 F	С		
07/31/90	20 hrs 0 130 - 145 F	Н	very humid 8 hrs	
08/02/90	0.25 hrs 0 -100 F	С		

Set: I

Sample: ST-4

Comments: page 2

Materials: Thinning Silicones

Date	Action	Equip	Results/Comments	
08/02/90	I hr 0 250 F	С		
08/02/90	15 hrs 0 130 F	Н		
08/03/90	Test	E	Scratch	
08/06/90	1 hrs 0 -100 F	С		•
				Blended resins is best; Must be applied thin.

Comments: Testing Blends for microcracking

Materials: 7 Silicone Blends on one A517 panel

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester E = Scratch Tester Balanced Beam Elcometer

			u .
Date	Action	Equip	Results/Comments
07/24/90	Clean	-	60% HCL/ rinse
07/25/90	Formulate		. Silicone Blend formulations:
			1 2 3 4 5 6 7
		• • • • • • • •	SR-240 100 0 17 67 33 50 83 %
			6-2230 0 100 83 33 67 50 17 %
07/25/90	Coating	-	Brushcoat 3.5 mils wet (too thick)
07/25/90	1 hr 0 480 F	0	Bake cure
07/26/90	1 hr 0 410 F	0	Ory heat
07/27/90	Scratch testing 0 250 F	E/0	#2 & #3 Best; #1 & #7 Worst
07/27/90	1 hr 0 40 F	Н	
07/27/90	1/2 hrs 0 10 F	Н	
07/27/90	20 hrs 9 130 F	Н	
07/29/90	Scratch Test	E	

### _

# MRC Fabrication/Conditioning/Test Form 90-1

Set: I Sample: SB-7 Comments: Page 2

Materials: 7 Silicone Blends

Date	Action	Equip	Results/Comments
07/30/90	2 hrs 0 -100 F	C	
07/31/90	1 hr 0 480 F	С	
07/31/90	20 hrs # 130-145 F	Н	8 hrs very humid
08/02/90	1/4 hrs 0 -100 F	С	
08/02/90	1 hr 0 250 F	C	
08/02/90	15 hrs 0 130 F	Н	Humid
08/03/90	Scratch Test	E	
08/06/90	1 hr 0 -100 F	С	Autocycle
08/06/90	1 hr 0 600 F	С	Autocycle
			Best #1/ #4/ #7  #5 is MARB blend
***********			

Comments: Mass weight loss

Materials: Silicone Blend (no filler) used in MARB

Date	Action	Equip	Results/Comments
08/03/90	Acid clean	-	Remove mill scale both sides of panel
08/07/90	Acid clean	-	Reclean to remove spot rust
08/11/90	Clean	-	Consultant cleaner both sides 44B-FFPVA
08/11/90	Coat	-	Brush coat Silicone Blend 100% panel 78in ²
08/13/90	1 hr 0 480 F	0	Cure
08/14/90	2 hrs 9 600 F	0	
08/16/90	2 hrs 0 600 F	0	
08/17/90	2 hrs 0 600 F	0	
08/20/90	2 hrs 0 600 F	0	
08/21/90	2 hrs 0 600 F	0	
08/22/90	2 hrs 0 600 F	0	
08/23/90	2 hrs 0 600 F	O O	,
08/23/90	15 hrs 0 125 F	Н	

## 2

# MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 1 Comments: Page 2

Materials: MARB

Date	Action	Equip	Results/Comments	
08/27/90	6 hrs 0 580 F	0		
08/28/90	22 hrs 0 125 F	Н		
08/29/90	5 hrs 0 600 F	0		
08/29/90	14 hrs 0 125 F	Н		
08/30/90	4 hrs @ 600 F	0		
09/05/90	1 hr 0 -100 F	С	Autocycle	
09/05/90	16 hrs 0 125 F	Н		
09/06/90	3 hrs 0 600 F	0	*	
09/06/90	15 hrs @ 125 F	Н	Humid to dry	
09/07/90	1 hr 0 -125 F	С	Autocycle	
09/07/90	1 hr 0 800 F	C	Manual HIGH heat	Too high heat - failed

Set: I-P2 Sample: 2 Comments: Mass weight loss

Materials: MARB

Date	Action	Equip	Results/Comments
08/03/90	Acid clean	-	Remove mill scale both sides of panel
08/07/90	Acid clean	-	Reclean to remove spot rust
08/11/90	Clean	-	Consultant cleaner both sides 44B-FFPVA
08/11/90	Coat	-	Brush coat MARB 100% panel 78in ²
08/13/90	1 hr 0 480 F	0	Cure
08/14/90	2 hrs @ 600 f	0	·
08/16/90	2 hrs @ 600 F	0	·
08/17/90	2 hrs 0 600 F	0	
08/20/90	2 hrs 0 600 F	0	
08/21/90	2 hrs • 600 F	0	
08/22/90	2 hrs 0 600 F	0	
08/23/90	2 hrs 0 600 F	0	
08/23/90	15 hrs 0 125 F	Н	

#### _

# NRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 2 Comments: Page 2

Materials: MARB

Date	Action	Equip	Results/Comments
08/27/90	6 hrs 0 580 F	0	
08/28/90	22 hrs 0 125 F	Н	
08/29/90	5 hrs 0 600 F	0	
08/29/90	14 hrs 0 125 F	Н	
08/30/90	4 hrs 9 600 F	0	
09/05/90	1 hr 0 -100 F	С	Autocycle
09/05/90	16 hrs 0 125 F	Н	
09/06/90	3 hrs 0 600 F	0	
09/06/90	15 hrs 0 125 F	Н	Humid to dry
09/07/90	1 hr 0 -125 F	С	Autocycle
09/07/90	1 hr ● 800 F	С	Manual HIGH heat
09/11/90	1 hr 0 -100 F	С	
09/11/90	1 hr <b>0</b> 590 F	С	

Set: I-P2 Sample: 2 Comments: page 3

Materials: MARB

Date	Action	Equip	Results/Comments
09/12/90	1 hr 0 -100 F	С	
09/12/90	3 hrs 0 600 F	0	
09/12/90	16 hrs 0 125 F	Н	
09/13/90	21 hrs 0 125 F	Н	very humid
09/14/90	1 hr 0 -100 F	C	
09/18/90	1 hr 0 -100 f	C	
09/18/90	1 hr # 600 F	0	
09/19/90	1 hr 0 15 F	Н	
09/19/90	21 hrs 0 15 F	Н	
09/20/90	Test (Location 1)	A	600 PSI (100% C/I)
09/24/90	3 hrs 0 600 F	0	
09/24/90	13 hrs 0 120 F	Н	
09/25/90	1 hr 0 487 F	0	

Set: I-P2 Sample: 2 Comments: page 4

Materials: MARB

Date	Action	Equip	Results/Comments
09/25/90	16 hrs 0 120 F	Н	
09/26/90	3 hrs 0 600 F	0	
09/27/90	40 hrs 0 120 F	Н	**************************************
09/29/90	Test (Location 2)	Α	450 PSI (85% C; 15% A) 1259.6g
		Stop	testing although coating looks excellent
***********			
*******			

Set: I-P2 Sample: 3 Comments: Mass weight loss

Materials: DC 6-2230 Silicone Resin

Date	Action	Equip	Results/Comments
08/03/90	Acid clean	-	Remove mill scale both sides of panel
08/07/90	Acid clean	-	Reclean to remove spot rust - Drill hole to hang
08/11/90	Clean	-	Consultant cleaner both sides 44B-FFPVA / weigh
08/11/90	Coat	-	Brush coat Silicone resin 100% of panel 78 in ²
08/13/90	1 hr 0 480 F	0	Cure
08/14/90	2 hrs 0 600 F	0	
08/16/90	2 hrs 0 600 f	0	
08/17/90	2 hrs @ 600 F	0	
08/20/90	2 hrs 0 600 F	0	
08/21/90	2 hrs 0 600 F	0	
08/22/90	2 hrs 0 600 F	0	
08/23/90	2 hrs 0 600 F	0	
08/23/90	15 hrs 0 125 F	Н	***************************************
		• • • • • • • • • • • • • • • • • • • •	

#### 7

#### MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 3 Comments: Page 2

Materials: DC 2230 Silicone Resin

Date	Action	Equip	Results/Comments
08/27/90	6 hrs 0 580 F	0	
08/28/90	22 hrs 0 125 F	Н	
08/29/90	5 hrs 0 600 F	0	
08/29/90	14 hrs 0 125 F	Н	
08/30/90	4 hrs 0 600 F	0	
09/05/90	1 hr 0 -100 F	С	Autocycle
9/05/90	16 hrs 0 125 F	. Н	
09/06/90	3 hrs 0 600 F	0	
09/06/90	15 hrs # 125 F	Н	Humid to dry
09/07/90	1 hr 0 -125 F	С	Autocycle
09/07/90	1 hr 0 800 F	С	Manual HIGH heat

Comments: Mass weight loss Set: I-P2 Sample: 4

Materials: Sherwin Williams - Silver-Brite Hi-Heat resisting Aluminum paint 859S3

Date	Action	Equip	Results/Comments
08/03/90	Acid clean	-	Remove mill scale both sides of panel
08/07/90	Acid clean	-	Reclean to remove spot rust; drill hole to hang in oven
08/11/90	Clean		Consultant cleaner both sides 44B-FFPVA; weigh
08/11/90	Coat	-	Brush coat SW Silver-Brite B59S3 100% panel 78in ²
08/13/90	48 hrs ambient		Dry
08/14/90	2 hrs 0 600 F	0	
08/16/90	2 hrs 0 600 F	0	
08/17/90	2 hrs 0 600 F	0	
08/20/90	2 hrs 0 600 F	0	
08/21/90	2 hrs 9 600 F	0	
08/22/90	2 hrs 0 600 F	0	
08/23/90	2 hrs 0 600 F	0	
08/23/90	15 hrs 0 125 F		

#### ~

# AEDC-TR-92-23

#### MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 4 Comments: Page 2

Materials: SW Silver-Brite

Date	Action	Equip	Results/Comments
08/27/90	6 hrs 0 580 F	0	
00/28/90	22 hrs @ 125 F	Н	
08/29/90	5 hrs 0 600 F	0	
08/29/90	14 hrs @ 125 F	Н	
08/30/90	4 hrs 0 600 F	0	
09/05/90	1 hr 0 -100 f	С	Autocycle
09/05/90	16 hrs @ 125 F	Н	
09/06/90	3 hrs 0 600 F	0	
09/06/90	15 hrs 0 125 F	н	Humid to dry
09/07/90	1 hr 0 -125 F	С	Autocycle
09/07/90	1 hr @ 800 F	С	Manual HIGH heat
09/11/90	1 hr 0 -100 F	С	
09/11/90	1 hr 0 590 F	C	

# AEDC-TR-92-23

## MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 4 Comments: page 3

Materials: SW Silver Brite

Date	Action	Equip	Results/Comments
09/12/90	1 hr 0 -100 F	C	
09/12/90	3 hrs 0 600 F	0	
09/12/90	16 hrs 0 125 F	Н	
09/13/90	21 hrs 0 125 F	Н	very humid
09/14/90	1 hr 0 -100 F	C	
09/18/90	1 hr 0 -100 F	C	
09/18/90	1 hr 0 600 F	0	
09/19/90	1 hr 0 15 F	Н	
09/19/90	21 hrs 0 130 F	Н	
09/20/90	Test (Location 1)	Α	250 PSI (75% C; 25% I)
09/24/90	3 hrs @ 600 F	0	
09/24/90	13 hrs 0 120 F	Н	
09/25/90	1 hr <b>0 4</b> 87 F	0	

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AEDC-TR-92-23

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 4

Comments: page 4

Materials: SW Silverbrite

Date	Action	Equip	Results/Comments
09/25/90	16 hrs 0 120 F	Н	
09/26/90	3 hrs 0 600 F	0	
09/27/90	40 hrs 0 120 F	Н	
09/29/90	Test (Location 2)	A	700 PSI (90% C; 10% A) 1268.2g
	Stop	testing alt	hough coating looks excellent

Set: I-21P Sample: 9001 Comments:

Materials: MARB 2 over MARS 3

Date	Action	Equip	Results/Comments
07/16/90	Acid Clean		Remove mill scale both sides of panel
07/18/90	Medium rust	Н	
08/07/90	Clean	-	Acid clean and wire brush and xylene wipe
08/07/90	Coat	-	Brush MARS 3-33% Thin 2 coats
08/07/90	Coat	-	Brush MARB 2-33% Thin 2 coats Brush strokes
08/08/90	1 hr 0 480 F	0	Cure slowly heatup
08/10/90	1 hr 0 -110 F	С	Autocycle
08/10/90	1 hr 0 600 F	С	Autocycle
08/13/90	1 hr 0 -100 F	С	Cold autocycle
08/14/90	1 hr 0 -100 F	С	Cold autocyle
08/14/90	1/2 hr 0 600 F	С	Hot altered autocycle
08/16/90	5 hrs 0 140 F	Н	Hum i d
08/17/90	1/2 hr 0 20 F	Н	
	****************		

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#### MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9001 Comments: Page 2

Materials: MARB 2 over MARS 3

Date	Action	Equip	Results/Comments
08/17/90	3 hrs 0 130 F	Н	
08/20/90	16 hrs <b>0</b> 160 F	Н	
08/21/90	1 hr 0 -100 F	С	Cold
08/21/90	16 hrs <b>0</b> 120 F	Н	
08/22/90	1 hr -100 F	C	Cold
08/22/90	1 hr 0 600 F	C	Hot General stroke rusting
08/22/90	15 hrs 0 125 F	Н	
08/23/90	1 hr 0 -100 F	С	
08/23/90	1 hr 0 600 F	Ç	
08/23/90	15 hrs 0 125 F	Н	
08/28/90	22 hrs @ 125 F	Н	
08/29/90	5 hrs 0 600 F	0	
08/29/90	14 hrs 0 125 F	Н	

Set: I-21P Sample: 9001 Comments: Page 3

Materials: MARB 2 over MARS 3

Date	Action	Equip Results/Comments
08/30/90	4 hrs 0 600 F	0
09/05/90	1 hr 0 -100 F	<b>c</b>
09/05/90	16 hrs 0 125 F	Н
09/06/90	3 hrs 0 600 F	0
09/06/90	15 hrs 0 125 F	H Humid to dry
09/07/90	1 hr € -125 F	C Autocycle
09/07/90	1 hr # 800 F	C Manual HIGH heat Severe pitting at strokes
09/20/90	Test (Location 1)	A >1050 PSI No Failure knockoff 85% substrate; 15% C
09/24/90	3 hrs 0 600 F	0
09/24/90	13 hrs 0 120 F	Н
09/25/90	1 hr 0 487 F	0
09/25/90	16 hrs 0 120 F	Н
09/26/90	3 hrs 0 600 F	0

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## MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P

Sample: 9001

Comments: page 4

Materials: MARB 2 over MARS 3

Date	Action	Equip	Results/Comments
09/27/90	40 hrs 0 120 F	Н	
09/29/90	Test (Location 2)	A	700 PSI (100% C)
10/01/90	3.5 hrs 0 610 F	0	
10/01/90	16 hrs 0 120 F	Н	
10/02/90	1 hr 0 -100 F	С	
10/03/90	23 hrs 0 120/150 F	Н	
10/04/90	1 hr 0 -100 F	С	
10/04/90	1 hr 0 600 F	C	autocycle
10/04/90	15 hrs 0 120/160 F	Н	***************************************
10/06/90	1 hr # 487 F	0	***************************************
10/08/90	1 hr 0 -100 F	C	***************************************
10/08/90	1 hr 0 600 F	С	autocycle
10/08/90	20 hrs 0 120 F	Н	very humid

# AEDC-TR-92-23

## MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9001 Comments: page 5

Materials: MARB-2 over MARS-3

Date	Action	Equip	Results/Comm	ents		
10/10/90	Test (Location 3 C)	٨	>1000 PSI	(80% C; 10% A; 10% F)		
10/10/90	1 hr 0 -100 F	С				
10/10/90	8 hrs 0 350 F	0				
10/11/90	18 hrs 0 120 f	Н				
11/08/90	89 hrs 0 140 F	Н	very humid			
01/14/91		Sent	Sent to NLB for waterblasting			
				•••••••••••••••••••••••••••••••••••••••		
			***************************************			
	•••••			•••••		

### u

# MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P

Sample: 9002

Comments:

Materials: Sheffield #326

Date	Action	Equip	Results/Comments
07/16/90	Acid clean	-	Remove mill scale both sides of panel
07/18/90	Medium rusting	Н	
08/16/90	Clean		Acid clean and consultant clean
08/16/90	Coat	-	Brush coat (thin) air dry 1239.7g
08/17/90	Coat	-	Brush Coat (thin) air dry 1240.2g
08/20/90	1 hr 0 480 F	0	Cure (1.5 hrs slowly)
08/22/90	15 hrs 0 125 F	Н	
08/23/90	1 hr 0 -100 F	С	Autocycle
08/23/90	1 hr 0 600 F	С	Autocycle
08/23/90	15 hrs 0 125 F	Н	
08/28/90	22 hrs 0 125 F	Н	
08/29/90	5 hrs 0 600 F	0	
08/29/90	14 hrs @ 125 F	Н	

Set: I-21P Sample: 9002 Comments: Page 2

Materials: Sheffield #326

Date	Action	Egutp	Results/Comments
08/30/90	4 hrs 0 600 F	0	
09/05/90	1 hr 0 -100 F	C	
09/05/90	16 hrs 0 125 F	Н	***************************************
09/06/90	3 hrs 0 600 F	0	***************************************
09/06/90	15 hrs 0 125 F	H Hw	mid to dry
09/07/90	1 hr 0 -125 F	C Au	tocycle
09/07/90	1 hr 0 800 F	C Mai	nual HIGH heat No damage
09/11/90	1 hr 0 -100 F	C au	tocycle
09/11/90	1 hr 0 590 F	C alt	tered autocycle
09/12/90	1 hr 0 -100 F	C au	tocycle
09/12/90	3 hrs 0 600 F	0	
09/12/90	16 hrs 0 125 F	Н	
09/13/90	21 hrs 0 125 F	Н	

# AEDC-TR-92-

# MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9002 Comments: Page 3

Materials: Sheffield #326

Date	Action	Equip	Results/Comments
09/14/90	1 hr 0 -100 F	С	
09/18/90	1 hr 0 -100 F	С	
09/18/90	1 hr 0 600 F	0	
09/19/90	1 hr 0 15 F	Н	
09/19/90	21 hrs 0 130 F	Н	
09/20/90	Test (Location 1)	A	200 PSI (100% C)
09/24/90	3 hrs 0 600 F	0	
09/24/90	13 hrs • 120 F	Н	
9/25/90	1 hr • 487 F	0	·
9/25/90	16 hrs 0 120 F	Н	
9/26/90	3 hrs 0 600 F	0	
9/27/90	40 hrs 0 120 F	Н	
9/29/90	Test (Location 2)	Α	50 PSI (100% C)

Set: I-21P Sample: 9002 Comments: Page 4

Materials: Sheffield #326

Date	Action	Equip	Results/Comments
10/01/90	3.5 hrs 0 610 F	0	
10/01/90	16 hrs 0 120 F	Н	
10/02/90	1 hr 0 -100 F	С	
10/03/90	23 hrs 0 120/150 F	Н	
10/04/90	1 hr 0 -100 F	С	
10/04/90	1 hrs 9 600 F	С	autocycle
10/04/90	15 hrs 0 120/160 F	Н	
10/06/90	1 hr 0 487 F	0	
10/08/90	1 hr 0 -100 F	С	
10/08/90	1 hr ● 600 F	. С	autocycle
10/08/90	20 hrs # 120 F	Н	very humid
10/10/90	Test (Location 1 C)	A	50 PSI (90% F; 10% C) no test
10/10/90	1 hr 0 -100 F	С	

Set: I-21P Sample: 9002 Comments: page 5

Materials: Sheffield #326

Date	Action	Equip	Results/Comments
10/10/9	0 8 hrs 0 350 F	0	
10/11/9	0 18 hrs 0 120 F	Н	
11/08/9	0 89 hrs 0 140 F	Н	
11/26/9	0 1 hr 0 450 F	С	
11/26/9	0 4 hrs 0 600 F	0	
11/27/9	0 6 hrs 0 600 F	0	
11/27/9	0 40 hrs 0 140 F	Н	very humid
11/29/9	0 4.5 rs 0 550 F	0	
11/29/9	0 20 hrs <b>0</b> 140 F	Н	very humid
12/03/9	O Test (Location 4)	A	50 PSI (100% F)
E	vents: 21 H; 1 C (800F);	18 O/C (35	0 to 650F); 11 C (100F) = 51 total
12/04/9	0 3 hrs 0 550 F	0	
12/04/9	0 15 hrs 0 120-160 F	Н	dry

Set: I-21P Sample: 9002 Comments: page 6

Materials: Sheffield #326

Date	Action	Equip	Results/Comments
12/05/90	1 hr 0 -100 F	С	autocycle
12/05/90	1 hr 0 600 F	С	autocycle
12/05/90	16 hrs 0 120 F	Н	
12/06/90	1 hr 0 -110 F	С	autocycle
12/06/90	3 hrs 0 560 f	С	autocycle
12/07/90	5 hrs 0 560 F	0	
12/08/90	1 hr 0 -110 F	С	autocycle
12/10/90	1 hr 0 -110 F	С	autocycle
12/10/90	3 hrs 0 570 f	0	
12/11/90	1 hr 0 -110 F	С	autocycle
12/11/90	3 hrs 0 570 F	0	
12/12/90	3 hrs 0 580 F	0	removed @ 225 F
12/12/90	1 hr 0 -110 F	С	remove 0 20 F

# AEDC-TR-92-23

# MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9002 Comments: page 7

Materials: Sheffield # 326

Date	Action	Equip	Results/Comments
12/12/90	18 hrs 0 140 F	H-	very humid
12/13/90	5 hrs 0 580 F	0	
12/15/90	30 hrs @ 115/140 F	Н	dry
12/15/90	15 hrs 0 120 F	Н	humid
12/17/90	3 hrs 0 560 F	0	······································
12/17/90	32 hrs 0 140 F	Н	very humid
12/17/90	12 hrs 0 120 F	Н	very humid
12/19/90	3 hrs 0 560 F	0	
12/19/90	1 hr 0 -110 F	С	autocycle
01/14/91	Sent for watercleaning	9 <b>0</b> NLB	
	. * * * * * * * * * * * * * * * * * * *	• • • • • • • • •	
			***************************************

Set: I-21P Sample: 9003 Comments:

Materials: Sherwin Williams Superbrite

Date	Action	Equip	Results/Comments
07/16/90	Acid Clean	-	Remove mill scale both sides of panel
07/16/90	Rust	Н	
08/17/90	Clean	-	Acid clean and consultant clean
08/17/90	Coat	-	Brush coat (thin) 1226.3g
08/20/90	1 hr 0 480 F	0	Cure first coat
08/20/90	Coat	•	Brush coat (thin)
08/21/90	Coat	*	Brush coat (thin)
08/22/90	2 hrs 0 600 F	0	Slowly heat-up
08/22/90	15 hrs 0 125	Н	
08/23/90	1 hr 0 -100 F	С	Cold autocycle
08/23/90	1 hr 0 600 F	С	Hot autocycle
08/23/90	15 hrs 0 125 F	Н	
08/28/90	22 hrs 0 125 F	Н	

# AEDC-TR

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9003 Comments: Page 2

Materials: Sherwin Williams Silverbrite

Date	Action	Equip	Results/Comments
08/29/90	5 hrs 0 600 F	0	
08/29/90	14 hrs 0 125 F	Н	`
08/30/90	4 hrs @ 600 F	0	
09/05/90	1 hr 0 -100 F	С	
09/05/90	16 hrs 0 125 F	Н	
9/06/90	3 hrs 0 600 F	0	
9/06/90	15 hrs 0 125 F	H Hu	mid to dry
9/07/90	1 hr 0 -125 F	C Au	itocycle
9/07/90	1 hr @ 800 F	C Ma	anual HIGH heat Stop testing
09/07/90	1 hr 0 800 F	C Ma	nnual HIGH heat Stop testing

# AEDC-TR-92-23

# MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P

Sample: 9004

Comments: Spray tests

Materials: Red Hot Spraying

Date	Action	Equip	Results/Comments
old 7104	sample Backside clear		
			1290.9 As cleaned
			1290.0 1st coat
			1291.1 2nd coat
	,		1291.2 3rd coat
			4th coat
			•••••••••••••••••••••••••••••••••••••••
09/12/90	3 hrs 0 600 F	0	
9/12/90	16 hrs <b>0</b> 125 f	Н	
09/13/90	21 hrs 0 125 F	Н	
09/20/90			Stop testing

Set: I-P2 S

Sample: 9005

Comments:

Materials: Red Hot Spraying

(mill scale on back)

old 7701 sa	mple Solvent cleane	d and oversp	rayed 09/04/90
09/06/90	3 hrs <b>0</b> 600 F	0	
	15 hrs <b>0</b> 125 F	Н	
09/07/90	1 hr 0 -100 F	С	
09/07/90	1 hr 0 800 F	С	нот
09/11/90	1 hr 0 -100 F	С	
09/11/90	1 hr 0 590 F	C	
09/12/90	1 hr 0 -100 F	C	
09/12/90	3 hrs <b>0</b> 600 F	0	
09/12/90	16 hrs <b>0</b> 125 F	Н	
09/13/90	21 hrs <b>0</b> 125 F	н	
09/20/90	Test (Location 1)	A	550 PSI (80% C; 20% I)

Set: 1-P2 Sample: 9005 Comments: page 2

Materials: Red Hot Spraying (mill scale on back)

_			
Date	Action	Equip	Results/Comments
09/24/90	3 hrs 0 600 F	0	
09/24/90	13 hrs 0 120 F	Н	
09/25/90	1 hr • 487 FF	0	
09/25/90	16 hrs 0 120 F	Н	
09/26/90	3 hrs 0 600 F	0	
09/27/90	40 hrs 0 120 F	Н	
09/29/90	Test (Location 2)	A	800 PSI (75% C; 10% A; 15% F)
10/01/90	3.5 hrs 0 610 F	0	
10/01/90	16 hrs • 120 f	Н	
10/02/90	1 hr 0 -100 F	С	
10/03/90	23 hrs 0 120/150 F	Н	
10/04/90	1 hr 0 -100 F	С	
10/04/90	1 hr 0 600	С	autocycle

Set: I-P2 Sample: 9005 Comments: Page 3

Materials: Red Hot Spraying (mill scale on back)

10/04/90 1			Results/Comments
	5 hrs 0 120/150 F	Н	
10/06/90 1	hr 0 487 F	0	
10/08/90 1	hr 0 -100 F	С	
10/08/90 1	hr 0 600 F	С	autocycle
10/08/90 20	0 hrs • 120 F	Н	very humid
10/09/90 1	hr 0 -100 F	C	
10/10/90 To	est (Location 3 C)	Α	600 PSI (90% C; 10% C/I black oxide)
10/10/90 1	hr 0 -100 F	С	
10/10/90 8	hrs 0 350 F	0	
10/11/90 1	8 hrs 0 120 F	Н	very humid
			Stop testing

Set: I-P2 Sample: 9007 Comments: A516-70

Materials: HARB-47

Date	Action	Equip	Results/Comments
07/12/90	Acid clean	-	Remove mill scale both sides of panel
07/12/90	16 hrs • 130 F	Н	Rusting panels
07/13/90	2 hrs 0 620 F	0	Aging panel
07/13/90	17 hrs 0 135 F	Н	Rusting panel
07/19/90	20 hrs 0 130 F	Н	Salt spray rusting
09/07/90	Acid reclean		One side
09/07/90	Coat	-	Cloth wipe on MARB
09/07/90	Coat		Spray light coat MARB 1227.7g
09/07/10	Coat	-	Spray coat MARB 1227.9g
09/07/90	Coat	-	Spray topcoat MARB dry wt: 1228.4g
09/10/90	1 hr 0 487 F	0 ,	cure
09/11/90	1 hr 0 -100 F	С	
09/11/90	1 hr ● 590 F	C	

# MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9007 Comments: page 2

Materials: MARB-47

Date	Action	Equip	Results/Comments
09/12/90	1 hr 0 -100 F	С	
09/12/90	3 hrs 0 600 F	0	
09/12/90	16 hrs 0 125 F	Н	
09/13/90	21 hrs 0 125 f	Н	very humid
09/14/90	1 hr 0 -100 F	C	
09/18/90	1 hr 0 -100 F	С	
09/18/90	1 hr 0 600 F	0	
09/19/90	1 hr 0 15 F	Н	
09/19/90	21 hrs 0 130 F	Н	
09/20/90	Test (Location 1)	A	600 PSI (100% C/I)
09/24/90	3 hrs 0 600 F	0	
09/24/90	13 hrs 0 120 F	Н	
09/25/90	1 hr 0 487 F	0	

Set: 1-P2 Sample: 9007 Comments: page 3

Materials: MARB-47

Date	Action	Equip	Results/Comments
09/25/90	16 hrs 0 120 F	Н	
09/26/90	3 hrs 0 600 F	0	
09/27/90	40 hrs 0 120 F	Н	·
09/29/90	Test (Location 2)	Α	500 PSI (100% C/I)
10/01/90	3.5 hrs 0 610 F	0	
10/01/90	16 hrs # 120 F	Н	
10/02/90	1 hr 0 -100 F	С	
10/03/90	23 hrs 0 120/150 F	Н	
10/04/90	1 hr 0 -100 F	С	
10/04/90	1 hr 0 600 F	С	autocycle
10/04/90	15 hrs 0 120/160 F	Н	
10/06/90	1 hr 0 487 f	0	
10/08/90	1 hr 0 -100 F	С	

# MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 9007

Comments: page 4

Materials: MARB-47

Date	Action	Equip	Results/Comments
10/08/90	1 hr 0 600 F	C	autocycle
10/08/90	20 hrs 0 120 F	Н	very humid
10/09/90	1 hr 0 -100 F	C	
10/10/90	Test (Location 3 TL)	A	600 PSI (100% C/I) Grey, lots of lint
10/10/90	1 hr @ -100 F	С	
10/10/90	8 hrs • 350 F	0	
10/11/90	18 hrs 0 120 F	Н	
10/19/90	65 hrs 0 100 F	Н	very humid
10/22/90	24 hrs 0 120/135 F	Н	very humid
11/08/90	89 hrs 0 140 F	Н	very humid
11/26/90	1 hr 0 450 F	C	
11/26/90	4 hrs 0 600 F	0	
11/27/90	6 hrs <b>8</b> 600 F	0	

# AEDC-TR-92-23

### MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 9007

Comments: page 5

Materials: MARB-47

Date	Action	Equip	Results/Comments
11/27/90	40 hrs 0 140 F	Н	very humid
11/29/90	4.5 hrs 0 550 F	0	
11/29/90	20 hrs 0 140 F	Н	very humid
12/03/90	Test (Location 4)	Α	950 PSI (100% C/I)
12/04/90	3 hrs 0 550 F	0	
12/04/90	15 hrs 0 120-160 F	Н	dry
12/05/90	1 hr 0 -100 F	С	
12/05/90	1 hr 0 600 F	С	auto
12/05/90	16 hrs 0 120 F	Н	
12/06/90	1 hr 0 -110 F	С	auto
12/06/90	3 hrs 0 560 F	0	
12/07/90	5 hrs 0 560 F	0	
12/08/90	1 hr 0 -110 F	C	auto

# MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9007 Comments: page 6

Materials: MARB-47

Date	Action	Equip	Results/Comments
12/10/90	1 hr 0 -110 F	C	auto
12/10/90	3 hrs • 570 F	0	
12/11/90	1 hr 0 -110 F	С	auto
12/12/90	3 hrs 0 580 F	0	removed at 225 F end before ambient
12/12/90	1 hr 0 -110 F	С	removed at 20 F autoclycle close to end
12/12/90	18 hrs 0 140 F	Н	very humid
12/13/90	5 hrs 0 580 F	0	
12/15/90	30 hrs 0 115-140	Н	dry
12/15/90	15 hrs 0 120 F	Н	humid
12/17/90	3 hrs 0 560 F	0	
12/17/90	32 hrs 0 140 F	Н	very humid
12/17/90	12 hrs # 120 F	Н	very humid
12/19/90	3 hrs 0 560 F	0	

Set: I-P2 Sample: 9007 Comments: page 7

Materials: MARB-47

			D 14.46
Date	Action	Equip	Results/Comments
12/19/90	1 hr 0 -110	C	auto
12/28/90	Test (location 5)	A	1000 PSI (60% C/I; 40 % F) Continued on Test Form 91-1
01/15/91	1 hr 0 -110 F	С	auto
01/15/91	1 hr @ 600 F	C	auto
01/15/91	16 hrs • 118 F	Н	
01/16/91	20 hrs 0 120 F	Н	very humid
01/17/91	15 hrs 0 120 F	Н	
01/18/91	28 hrs 0 120 F	Н	
01/19/91	1 hr 0 -110 F	С	
01/19/91	1 hr ● 580 F	0	
01/21/91	1 hr 0 -100 F	С	
01/21/91	2 hrs 0 600 F	0	
01/22/91	2 hrs 0 610 F	0	

Page 1

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Set-Sample: IP2 - 9007 Comments: See 1990 Testing

Substrate/Preparation: 516/ medium salt pitting

Materials: MARB-47 (cloth wipe and 3 spray coats)

	7 - 7disc3.0		
Date	Action	Equip	Results/Comments
07/12/90	See 1990 Test Form 9	0-1	Mill Scale removed both sides
09/07/90	n n n	_	Coat date; cured: 09/10/90
12/28/90	7 S F	_	3 month testing completed: 65 events
12/28/90	Test (Location 5)	Α	1000 PSI (60% C/I; 40% F)
01/15/91	1 hr @ -110 F	С	Cold Autocycle
01/15/91	1 hr @ 600 F	С	Hot Autocycle
01/15/91	16 hrs @ 118 F	Н	Humid
01/16/91	1/2 hr 0 -95 F	С	Cold (aborted autocycle)
01/16/91	20 hrs @ 120 F	Н	very Humid
01/17/91	15 hrs @ 120 F	Н	very humid
01/18/91	28 hrs @ 120 F	Н	dry
01/19/91	1 hr @ -110 F	С	autocycle cold
01/19/91	1 hr @ 580 F	0	hot
01/21/91	1 hr 0 -100 F	С	cold
01/21/91	2 hrs @ 600 F	0	hot,dry
01/22/91	2 hrs @ 610 F	0	hot,dry
01/22/91	1 hr @ -110 F	С	cold
01/22/91	16 hrs @ 115 F	Н	very humid
01/23/91	1 hr @ -110 F	С	cold
01/26/91	Test (Location 6)	A	900 PSI (20% C/I; 70% F; 10% dolly)

	MRC Fabri	cation/Cond	iitioning/Test Form 91-1	Page 2
Set-Sample	e: IP2 - 9007 Comm	ents: Page	2	<del></del> ,
Materials:	MARS-47			
Equip Defi	nitions: See Page 1			
Date	Action	Equip	Results/Comments	
01/30/91	1 hr @ -110 F	С	cold	
01/30/91		Н	very humid	
02/01/91	1 hr @ -110 F	С	autoclave	
02/01/91	1 hr 0 600 F	С	autoclave	
02/04/91	2.5 hrs @ 600 F	0	dry heat	
02/04/91	42 hrs @ 115/150 F	Н		
02/06/91	2.5 hrs @ 580 F	0	dry heat	
02/07/91	3 hrs @ 590 F	0	dry heat	
02/08/91	1 hr 0 -100 F	С	autocycle	
02/09/91	1 hr @ -100 F	С		
02/11/91	1 hr @ -100 F	С	autocycle	
02/11/91	2 hrs @ 620 F	0	heat	
02/11/91	16 hrs @ 115 F	Н		
02/12/91	1 hr @ -100 F	С	autocycle	
02/12/91	2 hrs @ 600 F	0		
02/12/91	18 hrs @ 115 F	Н		
02/13/91	1 hr 0 -100 F	C		
02/13/91	15 hrs 0 118 F	Н		
02/14/91	1 hr @ -100 F	C		
02/14/91	2 hrs @ 590 F	0		
02/14/91	16 hrs 0 120 F	Н		

MRC Fabrication/Conditioning/Test Form 91-1								
Set-Sampl	e: IP2 - 9007 Comm	ments: pago	e 3	<del></del> 1				
Materials	Materials: MARB 47							
Equip Def	initions: See Page 1	Į.	6					
Date	Action	Equip	Results/Comments	l				
02/15/91	0.5 hrs 0 -40 F	С						
02/18/91	Test (Location 7)		100 PSI (85% C/I, 15% F)					
			Accelerated testing complet					
		••••••						
	•••••							
		• • • • • • • • • • • • • • • • • • • •						
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Set: I-P2 Sample: 9008 Comments:

Materials: MZRB-60

Date	Action	Equip	Results/Comments
07/12/90	Acid clean		Remove mill scale both sides of panel
07/12/90	16 hrs 0 130 F	Н	Rusting panels
07/13/90	2 hrs 0 620 F	0	Aging panel
07/13/90	17 hrs 0 135 F	Н	Rusting panel
07/19/90	20 hrs 0 130 f	Н	Salt spray rusting
09/07/90	Acid reclean		One side
09/07/90	Coat	-	Cloth wipe on MZRB-60
09/07/90	Coat	-	light coat MZRB-60
09/07/10	Coat	-	Brush coat MZRB-60
09/10/90	1 hr 0 487 F	0	cure
09/11/90	1 hr 0 -100 F	С	
09/11/90	1 hr @ 590 F	С	

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# AEDC-TR-92-23

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9008 Comments: page 2

Materials: MZRB-60

Date	Action	Equip	Results/Comments
09/12/90	1 hr 0 -100 F	C	-
09/12/90	3 hrs 0 600 f	0	
09/12/90	16 hrs 0 125 F	Н	
09/13/90	21 hrs 0 125 F	Н	very humid
09/14/90	1 hr 0 -100 F	C	
09/18/90	1 hr 0 -100 F	C	
09/18/90	1 hr @ 600 F	0	
09/19/90	1 hr 0 15 F	Н	
09/19/90	21 hrs 0 130 F	Н	
09/20/90	Test (Location 1)	A	>1050 No Failure Knockoff 95% Substrate; 5% C
09/24/90	3 hrs 0 600 F	0	
09/24/90	13 hrs @ 120 F	Н	
09/25/90	1 hr @ 487 F	0	

Set: I-P2 Sample: 9008 Comments: page 3

Materials: MZRB-60

Date	Action	Equip	Results/Comments
09/25/90	16 hrs 0 120 F	Н	
09/26/90	3 hrs 0 600 F	0	·
09/27/90	40 hrs # 120 F	Н	·
09/29/90	Test (Location 2)	Α	400 PSI (99% C/I; 1% F)
10/01/90	3.5 hrs 0 610 F	0	
10/01/90	16 hrs 0 120 F	Н	
10/02/90	1 hr 0 -100 F	С	
10/03/90	23 hrs 0 120/150 F	Н	
10/04/90	1 hr 0 -100 F	C	
10/04/90	1 hr 0 600 F	С	autocycle
10/04/90	15 hrs # 120/160 F	Н	
10/06/90	1 hr 0 487 F	0	
10/08/90	1 hr 0 -100 F	С	autocycle

# AEDC-TR-92-23

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9008 Comments: page 4

Materials: MZRB-60 Spraying

Date	Action	Equip	Results/Comments
10/08/90	1 hr 0 600 F	С	autocycle
10/08/90	20 hrs 0 120 F	Н	very humid
10/09/90	1 hr 0 -100 F	С	•
10/10/90	Test (Location 3 C)	A	>1000 no failure
10/10/90	1 hr 0 -100 F	С	
10/10/90	8 hrs 0 350 F	0	
10/11/90	18 hrs 0 120 F	Н	very humid
11/08/90	89 hrs 0 140 F	Н	
11/26/90	1 hr # 450 F	C	
11/26/90	4 hrs @ 600 F	0	
11/27/90	6 hrs 0 600 F	0	
11/27/90	40 hrs 0 140 F	Н	very humid
11/29/90	4.5 hrs 0 550 F	0	

Set: I-P2 Sample: 9008 Comments: page 5

Materials: MZRB-60

Action	Equip	Results/Comments
20 hrs • 140 f	Н	very humid
Test (Location 4)	Α	550 PSI (100% C)
3 hrs 0 550 F	0	
15 hrs # 120-160 F	H	dry
1 hr 0 -100 F	С	
1 hr 0 600 F	С	auto
16 hrs • 120 F	Н	
1 hr 0 -110 F	С	auto
3 hrs 0 560 F	0	
5 hrs 0 560 F	0	
1 hr 0 -110 F	С	auto
1 hr 0 -110 F	С	auto
3 hrs Ø 570 F	0	
1 hr 0 -110 F	С	auto
	20 hrs • 140 F  Test (Location 4)  3 hrs • 550 F  15 hrs • 120-160 F  1 hr • -100 F  1 hr • 600 F  1 hr • -110 F  3 hrs • 560 F  5 hrs • 560 F  1 hr • -110 F  3 hrs • 570 F	20 hrs • 140 F H  Test (Location 4) A  3 hrs • 550 F O  15 hrs • 120-160 F H  1 hr • -100 F C  1 hr • 600 F C  16 hrs • 120 F H  1 hr • -110 F C  3 hrs • 560 F O  1 hr • -110 F C  1 hr • -110 F C  3 hrs • 570 F O

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# MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9008 Comments: page 6

Materials: MZRB-60

Date	Action	Equip	Results/Comments
12/11/90	3 hrs ● 570 F	0	
12/12/90	3 hrs 0 580 F	0	removed at 225 F end before ambient
12/12/90	1 hr € -110 F	С	removed at 20 F autoclycle close to end
12/12/90	18 hrs 0 140 F	Н	very humid
12/13/90	5 hrs 0 580 F	0	÷
12/15/90	30 hrs 0 115-140	Н	dry
12/15/90	15 hrs 0 120 F	Н	humid
12/17/90	3 hrs 0 560 F	0	
12/17/90	32 hrs 0 140 F	Н	very humid
12/17/90	12 hrs 0 120 F	Н	very humid
12/19/90	3 hrs 0 560 F	0	
12/19/90	1 hr 0 -110	С	auto
12/28/90	Test (location 5)	A	400 PSI (95% C; 5% F) STOP TESTING

Set: I-P2 Sample: 9009 Comments:

Materials: MARB-47 over MZRB-60

1234

Date	Action	Equip	Results/Comments
07/12/90	Acid clean	-	Remove mill scale both sides of panel
07/12/90	16 hrs <b>0</b> 130 F	Н	Rusting panels
07/13/90	2 hrs 0 620 F	0	Aging panel
07/13/90	17 hrs 0 135 F	Н	Rusting panel
07/19/90	20 hrs 0 130 F	н	Salt spray and severly pit rusting
09/07/90	Acid reclean	-	One side; grind over corner 1226.7g
09/07/90	Coat	-	Cloth wipe on MZRB-60 1227.6g
09/07/90	Coat		Spray light coat MARB 1227.7g
09/07/10	Coat	-	Spray coat MARB 1227.9g
09/07/90	Coat	-	Spray topcoat MARB dry wt: 1228.4g
09/10/90	1 hr 0 487 F	0	cure
09/11/90	1 hr 0 -100 F	С	
09/11/90	1 hr 0 590 F	С	

Set: I-P2 Sample: 9009 Comments: page 2

Materials: MARB-47 over MZRB-60

Date	Action	Equip	Results/Comments
09/12/90	1 hr 0 -100 F	С	
09/12/90	3 hrs 0 600 F	0	
09/12/90	16 hrs 0 125 F	Н	
09/13/90	21 hrs 0 125 F	Н	very humid
09/14/90	1 hr 0 -100 f	С	
09/18/90	1 hr 0 -100 F	С	
-09/18/90	1 hr 0 600 F	0	
09/19/90	1 hr 0 15 F	Н	
09/19/90	21 hrs 0 130 F	Н	
09/20/90	Test (Location 1)	A	1050 PSI (90 % A; 10% F) Lint hairs
09/24/90	3 hrs @ 600 F	0	
09/24/90	13 hrs 0 120 F	Н	
09/25/90	1 hr 0 487 F	0	

Set: I-P2 Sample: 9009 Comments: page 3

Materials: MARB-47 over MZRB-60

Date	Action	Equip	Results/Comments
09/25/90	16 hrs • 120 F	H	
09/26/90	3 hrs 0 600 F	0	
09/27/90	40 hrs 0 120 F	Н	
09/29/90	Test (Location 3)	A	510 PSI (50% C; 5% C/I)
10/01/90	3.5 hrs 0 610 F	0	
10/01/90	16 hrs 0 120 F	Н	
10/02/90	1 hr 0 -100 F	С	
10/03/90	23 hrs 0 120/150 F	Н	
10/04/90	1 hr 0 -100 F	C	·
10/04/90	1 hr 0 600 F	С	Autocycle
10/04/90	15 hrs 0 120/160 F	Н	
10/06/90	1 hr 0 487 F	0	
10/08/90	1 hr 0 -100 F	C	
			•

# MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9009 Comments: page 4

Materials: MARB-47 over MZRB-60

Date	Antina		B. 34 44
Pale	Action	Equip	Results/Comments
10/08/90	1 hr 0 600 F	С	autocycle
10/08/90	20 hrs 0 120 F	Н	very humid
10/09/90	1 hr 0 -100 F	С	
10/10/90	Test (Location 4 TC)	A	750 PSI (50% C; 50% C/I black)
10/10/90	1 hr 0 -100 F	С	
10/10/90	8 hrs 0 350 F	0	to Ken to check black oxide
11/08/90	89 hrs 🖸 140 F	Н	
11/26/90	1 hr 0 450 F	С	
11/26/90	4 hrs 9 600 F	0	
11/27/90	6 hrs 0 600 F	0	*
11/27/90	40 hrs # 140 F	н	very humid
11/29/90	4.5 hrs 0 550 F	0	<del></del>
11/29/90	20 hrs 0 140 F	Н	very humid

Set: I-P2 Sample: 9009 Comments: page 5

Materials: MARB-47 over MZRB-60

Date	Action	Equip	Results/Comments
12/03/90	Test (Location 2)	Α	700 PSI (100% C)
12/04/90	3 hrs 0 550 F	0	
12/04/90	15 hrs @ 120-160 F	Н	dry
12/05/90	1 hr 0 -100 F	С	
12/05/90	1 hr 0 600 F	С	auto
12/05/90	16 hrs • 120 F	Н	
12/06/90	1 hr 0 -110 F	С	auto
12/06/90	3 hrs • 560 F	0	
12/07/90	5 hrs • 560 F	0	
12/08/90	1 hr 0 -110 F	С	auto
12/10/90	1 hr 0 -110 F	С	auto
12/10/90	3 hrs 0 570 F	0	
12/11/90	1 hr 0 -110 F	С	auto

Set: I-P2 Sample: 9009 Comments: page 6

Materials: MARB-47 over MZRB-60

Date	Action	Equip	Results/Comments
12/11/90	3 hrs 0 570 F	0	removed at 225 F
12/12/90	3 hrs 0 580 F	0	removed at 225 F end before ambient
12/12/90	1 hr 0 -110 F	C	removed at 20 F autoclycle close to end
12/12/90	18 hrs @ 140 F	Н	very humid
12/13/90	5 hrs 0 580 F	0	
12/15/90	30 hrs 0 115-140	Н	dry
12/15/90	15 hrs 0 120 F	Н	humid
12/17/90	3 hrs 0 560 F	0	
12/17/90	32 hrs @ 140 F	Н	very humid
12/17/90	12 hrs @ 120 F	Н	very humid
12/19/90	3 hrs 0 560 F	0	
12/19/90	1 hr 0 -110	С	auto
12/28/90	Test (location 5)	Α	600 PSI (40% C; 60% F) STOP TESTING

Set: I-P2 Sample: 9010 Comments:

Materials: MARB-47

Date	Action	Equip	Results/Comments
07/13/90	Acid clean	-	Remove mill scale both sides of panel
07/16/90	3 hrs 0 130 F	Н	Rusting panels
07/18/90	16 hrs 0 130 F	Н	Rusting panels
07/19/90	Salt Spray	-	Spray panels with Sea Salt solution
07/19/90	20 hrs @ 130 F	Н	Severe rusting of panels
07/20/90	5 hrs 0 140 F	н	Re-salt spray
07/23/90	8 hrs 0 170 F	Н	
07/23/90	4 hrs 0 140 F	Н	severe pitting corrosion
09/17/90	Clean (1 hour)	-	Consultant gel
09/24/90	Clean (5 minutes)	-	Flash rust removal with XII-04 very clean
09/24/90	Coat	-	Spray coat 2 thin layers
09/25/90	Coat	-	Spray coat 2 layers
09/25/90	1 hr 0 487 F	0	Slow cure

# MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9010 Comments: Page 2

Materials: MARB-47

Date	Action	Equip	Results/Comments
09/25/90	16 hrs 0 120 F	Н	
09/26/90	3 hrs 0 600 F	0	
09/27/90	40 hrs & 120 F	Н	
09/29/90	Test (Location 1)	A	350 PSI (85% C; 15% F)
10/01/90	3.5 hrs 0 610 F	0	
10/01/90	16 hrs 0 120 F	Н	
10/02/90	1 hr 0 -100 F	С	
10/03/90	23 hrs 0 120/150 F	Н 1	Excellent condition; rough due to Aluminum globs
10/04/90	1 hr 0 -100 F	С	and salt pitting
10/04/90	1 hr 0 600 F	С	
10/04/90	15 hrs @ 120/160 F	Н	·
10/06/90	1 hr 0 487 F	0	
10/08/90	1 hr 0 -120 F	C	

Set: I-P2 Sample: 9010 Comments: page 3

Materials: MARB-47

Date	Action	Eguip	Results/Comments
10/08/90	1 hr 0 600 F	С	autocycle
10/08/90	20 hrs 0 120 F	H	very humid
10/09/90	1 hr 0 -100 F	С	
10/10/90	Test (Location 2 TL)	A	500 PSI (100% C)
10/10/90	1 hr @ -100 F	С	
10/10/90	8 hrs 0 350 F	0	
10/11/90	18 hrs 0 120 F	H.	very humid
10/19/90	65 hrs @ 100 F	Н	very humid
10/22/90	24 hrs 0 120/135 F	Н	very humid
11/08/90	89 hrs @ 140 F	Н	very humid
11/29/90	4.5 hrs 0 550 F	0	
11/29/90	20 hrs 0 140 F	Н	very humid
12/03/90	Test (Location 3)	A	650 PSI (100% C)

Set: I-P2 Sample: 9010 Comments: page 4

Materials: MARB-47

Date	Action	Equip	Results/Comments
12/04/90	3 hrs 0 550 F	0	
12/04/90	15 hrs @ 120-160 F	Н	dry
12/05/90	1 hr 0 -100 F	С	
12/05/90	1 hr 0 600 F	С	autocycle
12/05/90	16 hrs # 120 F	Н	
12/06/90	1 hr 0 -110 F	С	autocycle
12/06/90	3 hrs 0 560 F	0	
12/07/90	5 hrs 0 560 F	0	
12/08/90	1 hr 0 -110 F	С	autocycle
12/10/90	1 hr 0 -110 F	С	autocycle
12/10/90	3 hrs 0 570 F	0	
12/11/90	1 hr 0 -110 F	С	autocycle
12/11/90	3 hrs @ 570 F	0	

Set: I-P2 Sample: 9010 Comments: page 5

Materials: MARB-47

Date	Action	Equip	Results/Comments
12/12/90	3 hrs @ 580 F	0	removed at 225 F
12/12/90	1 hr 0 -110 F	С	removed at 20 F autocycle
12/12/90	18 hrs @ 140 F	Н	very humid
12/13/90	5 hrs @ 580 F	0	
12/15/90	30 hrs @ 115-140 F	Н	dry
12/15/90	15 hrs @ 120 F	Н	humid
12/17/90	3 hrs 0 560 F	0	
12/17/90	32 hrs 0 140 F	Н	very humid
12/17/90	12 hrs 0 120 F	Н	very humid
12/19/90	3 hrs 0 560 F	0	
12/19/90	1 hr 0 -110 F	С	autocycle
12/28/90	Test (location 4 & 5)	Α	200 & 300 PSI (100% C)
		See 1	991 testing on new format

Set: I-P2 Sample: 9010 Comments: page 6

Materials: MARB-47

Date	Action	Equip	Results/Comments
01/17/91	15 hrs 0 120 F	Н	humid
01/18/91	28 hrs @ 120 F	Н	dry
01/19/91	1 hr 0 -110 F	С	autocycle
01/19/91	1 hr 0 580 F	0	dry heat
01/21/91	1 hr 0 -100 F	С	cold
01/21/91	2 hrs 0 600 F	0	dry heat
01/22/91	2 hrs 0 610 F	0	dry heat
01/22/91	1 hr 0 -110 F	С	cold autocycle
01/22/91	16 hrs 0 115 F	Н	very humid
01/23/91	1 hr 0 -110 F	C	cold
01/26/91	Test (location 6)	Α	100 PSI (100% C)
4	spray coats practice and	was not i	ntended to be tested) Holds up well
See 1991 1	format		

Page 1

6

Set-Sample: IP2-9010 Comments: See form 90-1

Substrate/Preparation: 51 /Severe SS pitting

Materials: MARB-47

	7 - Adiles II	on rester,	1 - M12C 162C2
Date	Action	Equip	Results/Comments
07/13/90	remove mil scale	-	HCL clean both sides
07/23/90	See Test form 90-1	Н	Severe SS rust pitting
09/24/90	See Test form 90-1	•	Spray 4 coats
09/25/90	1 hr 0 487 F Cure	0	Slow to temperature
12/28/90	See Test Form 90-1		47 events in 3 months
01/15/91	16 hrs 0 118 F	Н	humaid
01/16/91	1/2 hr 0 -95 F	С	
01/17/91	15 hrs @ 120 F	Н	very humid
01/18/91	28 hrs @ 120 F	Н	dry
01/19/91	1 hr 0 -110 F	С	autocycle cold
01/19/91	1 hr 0 580 F	0	hot
01/21/91	1 hr 0 -100 F	С	cold
01/21/91	2 hrs 0 600 F	0	hot
01/22/91	2 hrs @ 610 F	0	hot
01/22/91	1 hr 0 -110 F	С	cold
01/22/91	16 hrs 0 115 F	Н	very humid
01/23/91	1 hr 0 -110 F	С	cold Poor spray application
01/26/91	Test (Location 6)	A	100 PSI (100% C)
01/30/91	1 hr 0 -110 F	С	
01/30/91	41 hrs 0 115 F	Н	
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	MRC Fabri	cation/Cond	itioning/Test Form 91	-1 . Page 2
Set-Sample	: IP2 - 9010 Comm	ents: page	2	1
Materials:	MARB-47			
Equip Defi	nitions: See Page 1			
Date	Action	Equip	Results/Comments	
02/01/91	1 hr 0 -110 F	С		
02/01/91	1 hr 0 600 F	С		
02/04/91	2.5 hrs @ 600 F	0	. ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	***
02/04/91	42 hrs @ 115-150 F	Н	very humid	
02/06/91	2.5 hrs @ 580 F	0		
02/07/91	3 hrs @ 590 F	0		
02/08/91	1 hr @ -100 F	C	autocycle	
2/09/91	1 hr 0 -100 F	C	autocycle	***********
02/11/91	1 hr @ -100 F	С	autocycle	
2/11/91	2 hrs 0 620 F	0		
2/11/91	16 hrs @ 115 F	Н		
02/12/91	1 hr 0 -100 F	С		
02/12/91	2 hrs 0 600 F	0		
02/12/91	18 hrs @ 115 F	Н		
02/13/91	1 hr 0 -100 F	C		
02/13/91	15 hrs 0 118 F	Н		*********
02/14/91	1 hr 0 -100 F	C		***************************************
02/14/91	2 hrs 0 590 F	0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
02/14/91	16 hrs @ 120 F	Н		
02/15/91	0.5 hrs 0 -40 F	C		
02/18/91	Test (Location 7)	Α	100 PSI (100% C)	Testing completed
03/08/91	Clean off MARB		Sander	

Set: I-P2 Sample: 9011 - 9013 Comments: Q Panels/ Sprayed

Materials: MARB-47 1 coat, 2 coats, 3 coats

. Date	Action	Equip	Results/Comments
09/25/90	Clean	-	Wipe Q-Panels with Xylene
09/25/90	Coat	-	Spray one coat 9011
			Spray two coats 9012
			Spray 3 coats 9013
09/25/90	1 hr 0 487 F	. 0	Curing slowly
09/25/90	16.hrs 0 120 F	Н	
09/26/90	3 hrs 0 600 F	0	
09/26/90	40 hrs 0 120 F	Н	
10/01/90	3.5 hrs 0 610 F	0	
10/01/90	16 hrs 0 120 F	Н	
10/02/90	1 hr 0 -100 F	С	
10/03/90	23 hrs 0 120/150 F	Н	
10/04/90	1 hr 0 -100 F	С	

Set: I-P2 Sample: 9011;9012;9013 Comments: page 2

Materials: MARB-47 on Q-panels

Date	Action	Equip	Results/Comments
10/04/90	1 hr 0 600 F	C	
10/04/90	15 hrs 0 120 F/160 F	Н	
10/06/90	1 hr 0 487 F	0	
10/08/90	1 hr 0 -100 F	C	
10/08/90	1 hr 0 600 F	C	autocycle
10/08/90	20 hrs 0 120 F	Н	very humid
10/10/90	Test (Location 1)	A	50 PSI (100% F no test) 9013 only
			Stop Tests
	•		

Set: 21 Sample: 9014 Comments: A-516 steelMaterials: MARB-47

Date	Action	Equip	Results/Comments
10/04/90	Remove mill scale	-	HCL acid clean both sides
10/04/90	15 hrs 0 120/160 F	Н	Light rusting
10/05/90	Clean	-	Consultant gel XIX-01 (5 min)/ Rinse
10/05/90	Coat		Spray coat 2 thin layers (small air sprayer)
			Let dry 15 minutes between coats
	Coat		Spray coat 3rd coat - 2 passes
10/06/90	Cure 1 hr 0 487 F	0	slow to temperature
10/08/90	1 hr 0 -100 F	С	
10/08/90	1 hr • 600 F	С	autocycle
10/08/90	20 hrs 0 120 F	Н	Very humid
10/09/90	1 hr 0 -100 F	С	
10/10/90	Test (Location 1 TL)	A	>1000 PSI No Failure
10/10/90	1 hr 0 -100 F	С	

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MRC Fabrication/Conditioning/Test Form 90-1

Set: 21 Sample: 9014 Comments: page 2

Materials: MARB-47

Date	Action	Equip	Results/Comments
10/10/90	8 hrs 0 350 F	0	To Ken to check Black Oxide
11/08/90	89 hrs 0 140 F	Н	No rusting
11/26/90	1 hr 0 450 F	С	
11/26/90	4 hrs 0 600 F	0	
11/27/90	6 hrs # 600 F	0	
11/27/90	40 hrs 8 140 F	Н	very humid
11/29/90	4.5 hrs 0 550 F	0	
11/29/90	20 hrs 0 140 F	Н	very humid
12/03/90	Test (Location 2)	Α	700 PSI (30% C/I; 30% C; 10% F; 30% dolly)
12/04/90	3 hrs 0 550 F	0	
12/04/90	15 hrs 0 120-160 F	Н	dry
12/05/90	1 hr 0 -100 F	С	
12/05/90	1 hr 🗣 600 F	C	auto

Set: I-P2 Sample: 9014 Comments: page 3

Materials: MARB-47

Date	Action	Equip	Results/Comments
12/05/90	16 hrs 0 120 F	H	
12/06/90	1 hr 0 -110 F	С	auto
12/06/90	3 hrs 0 560 F	0	
12/07/90	5 hrs 0 560 F	0	
12/08/90	1 hr 0 -110 F	С	auto
12/10/90	1 hr 0 -110 F	С	auto
12/10/90	3 hrs 0 570 f	0	
12/11/90	1 hr 0 -110 F	С	auto
12/11/90	3 hrs 0 570 F	0	
12/12/90	3 hrs 0 580 F	0	removed at 225 F end before ambient
12/12/90	1 hr 0 -110 F	С	removed at 20 F autoclycle close to end
12/12/90	18 hrs 0 140 F	Н	very humid
12/13/90	5 hrs 0 580 F	0	·
12/15/90	30 hrs 0 115-140	Н	dry

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 9014

Comments: page 4

Materials: MARB-47

Date	Action	Equip	Results/Comments
12/15/90	15 hrs 0 120 F	Н	humid
12/17/90	3 hrs 0 560 F	0	
12/17/90	32 hrs 0 140 F	Н	very humid
12/17/90	12 hrs 0 120 F	Н	very humid
12/19/90	3 hrs 0 560 F	0	
12/19/90	l hr 0 -110	С	auto
12/28/90	Test (location 3)	A	1000 PSI (60% C/I; 40 % F)
	Poor 4 coats spray appl	ication;	not intended to test; rusting bottom edge
CONTINUED	in 1992 format		

			•••••••••••••••••••••••••••••••••••••••

Page 1

Set-Sample: 21 - 9014 Comments: See form 90-1

Substrate/Preparation: 5%% light rusting

Materials: MARB-47

	73 5	_
1		2
8		6
4		

	/ - //mingston		
Date	Action E	quip	Results/Comments
10/04/90	Remove mill scale	-	HCL clean both sides
10/05/90	See 1990 test form 90-	1	Coat date; 3 spray coats
10/06/90	Cure 1 hr @ 487 F	0	Slow rise to temperature
12/28/90	1990 Test series ended		37 events in two months Edge rust
01/15/91	1 hr @ -110 F	С	autocycle
01/15/91	1 hr @ 600 F	С	autocycle
01/15/91	16 hrs @ 118 F	Н	humid
01/16/91	1/2 hr @ -95 F	С	Liq Nitrogen low - aborted autocycle
01/16/91	20 hrs @ 120 F	Н	very humid
01/17/91	15 hrs @ 120 F	Н	very humid
01/18/91	28 hrs @ 120 F	Н	dry heat
01/19/91	1 hr @ -110 F	С	autocycle cold
01/19/91	1 hr @ 580 F	0	hot
01/21/91	1 hr 0 -100 F	С	autocycle cold Rust appearing - small spots
01/21/91	2 hrs @ 600 F	0	hot dry
01/22/91	2 hrs @ 610 F	0	hot dry
01/22/91	1 hr 0 -110 F	С	cold autocycle
01/22/91	16 hrs @ 115 F	Н	very humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 4)	A	1000 PSI (70% F; 20% C/I; 10% dolly)

Page 2

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 21 - 9014 Comments: Page 2

Materials: MARB-47

materials:	MAKD-4/				
Equip Defi	initions: See Page 1			6	
Date	Action	Equip	Results/Comments	l	
01/30/91	1 hr @ -110 F	С	cold		• • • • •
01/30/91	41 hrs @ 115 F	Н	very humid		
02/01/91	1 hr 0 -110 F	С	autoclave		-
02/01/91	1 hr @ 600 F	С	autoclave		
02/04/91	2.5 hrs @ 600 F	0	dry heat		
02/04/91	42 hrs @ 115/150 F	Н	very humid		
02/06/91	2.5 hrs @ 580 F	0	dry heat		
02/07/91	3 hrs @ 590 F	0	dry heat		
02/08/91	1 hr @ -100 F	С	autocycle		
02/09/91	1 hr 0 -100 F	С			
02/11/91	1 hr @ -100 F	С	autocycle		
02/11/91	2 hrs @ 620 F	0	heat		
02/11/91	16 hrs @ 115 F	Н			
02/12/91	1 hr @ -100 F	С	autocycle		
02/12/91	2 hrs 0 600 F	0			
02/12/91	18 hrs @ 115 F	Н			••••
02/13/91	1 hr 0 -100 F	С			
02/13/91	15 hrs @ 118 F	Н			
02/14/91	1 hr @ -100 F	С			
02/14/91	2 hrs 0 590 F	0			
02/14/91	16 hrs @ 120 F	Н			
	 				

Page 3

Set-Sample: 21 - 9014 Comments:

Materials: MARB 47

Equip Definitions: See Page 1

6

Date	Action	Equip	Results/Comments
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 5)	A	500 PSI (95% C, 2% A, 3% F)
02/22/91	2 hrs @ 590 F	0	
02/22/91	19 hsr @ 115 F	Н	humid
02/25/91	2 hrs @ 600 F	0	dry heat
02/25/91	1 hr @ -100 F	С	autocycle
02/27/91	1 hr @ -100 F	С	autocycle
02/27/91	2 hrs @ 350 F	0	dry low heat
02/28/91	1 hr @ -100 F	С	auto
02/28/91	2 hrs @ 600 F	0	dry heat
02/28/91	18 hrs @ 115 F	Н	humid
03/04/91	Test (Location 6)	Α	>1000 PSI
03/04/91	1 hr 0 487 F	0	dry
03/04/91	1 hr 0 -100 F	C	
03/05/91	1 hr 0 -100 F	С	
03/05/91	1 hr 0 600 F	0	
03/05/91	16.5 hrs 0 116 F	Н	
03/04/91	Test (Location 7)	Ā	1000 PSI
03/24/91	13 events later	С, А,	0
	Test (Location 8)	A	1000 PSI
		,,,,,,,,,,,	

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MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9015

Comments:

Materials: MZRB-60

Date	Action	Equip	Results/Comments
10/04/90	Remove mill scale	-	HCL acid clean both sides
10/04/90	15 hrs 0 120/160 F	Н	Light rusting
10/05/90	Clean	-	Consultant gel XIX-01 (5 min)/ Rinse
10/05/90	Coat	-	Spray coat 1 layer (atomizer sprayer) 3 mils wet (too Thick)
			Let dry 15 minutes between coats
	Coat	-	Spray coat 2nd coat - 1 pass
10/06/90	Cure 1 hr 0 487 F	0	slow to temperature (remove coating from .125 inch square)
10/08/90	1 hr 0 -100 F	С	
10/08/90	1 hr 0 600 F	С	autocycle
10/08/90	20 hrs 0 120 F	Н	Very humid
10/09/90	1 hr 0 -100 F	С	
10/10/90	Test (Location 1 TL)	A	>450 PSI (no test 100% F) no bonding to coating
10/10/90	1 hr 0 -100 F	С	

Set: 21 Sample: 9015 Comments: page 2

Materials: MZRB-60

Date	Action	Equip	Results/Comments
10/10/90	8 hrs 0 350 F	0	
10/11/90	18 hrs 0 120 F	Н	
10/19/90	65 hrs • 100 F	Н	very humid
10/22/90	24 hrs 0 120/150 F	Н	very humid
11/08/90	89 hrs @ 140 F	Н	very humid no rusting, but cracked where too thin
11/26/90	1 hr 0 450 f	С	
11/26/90	4 hrs • 600 F	0	
11/27/90	6 hrs # 600 F	0	
11/27/90	40 hrs 0 140 F	Н	very humid
11/29/90	4.5 hrs 0 550 F	0	
11/29/90	20 hrs 0 140 F	Н	very humid
12/03/90	Test (Location 2 TR)	A	1050 PSI (85% C; 15% F)
12/04/90	3 hrs 0 550 F	0	

0

MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9015

Comments: page 3

Materials: MZRB-60

Date	Action	Equip	Results/Comments
12/04/90	15 hrs 0 120-160 F	Н	dry
12/05/90	1 hr 0 -100 F	С	
12/05/90	1 hr 0 600 f	С	auto
12/05/90	16 hrs # 120 F	Н	
12/06/90	1 hr 0 -110 F	С	auto
12/06/90	3 hrs 0 560 F	0	
12/07/90	5 hrs 0 560 F	0	
12/08/90	1 hr 0 -110 F	C	auto
12/10/90	1 hr € -110 F	С	auto
12/10/90	3 hrs 0 570 F	0	
12/11/90	1 hr 0 -110 F	С	auto
12/11/90	3 hrs 0 570 F	0	
12/12/90	3 hrs 0 580 F	0	removed at 225 F end before ambient
12/12/90	1 hr 0 -110 F	С	removed at 20 f autoclycle close to end

Sample: 9015

Comments: page 4

Materials: MZRB-60

Date	Action	Equip	Results/Comments
12/12/90	18 hrs 0 140 F	Н	very humid
12/13/90	5 hrs 0 580 F	0	
12/15/90	30 hrs 0 115-140	Н	dry
12/15/90	15 hrs 0 120 F	Н	humid
12/17/90	3 hrs 0 560 F	0	
12/17/90	32 hrs 0 140 F	Н	very humid
12/17/90	12 hrs 0 120 F	Н	very humid
12/19/90	3 hrs 0 560 F	0	
12/19/90	1 hr 0 -110	С	auto
12/28/90	Test (location 3)	A	500 PSI (90% C; 10 % F)
01/15/91	1 hr 0 -110 F	С	auto
01/15/91	1 hr 0 600 F	C	auto
01/15/91	16 hrs 0 118 F	Н	
01/15/91	STOP TESTING		100% mudcracking

Set: 21 Sample: 9016 Comments:

Materials: MZRB-blend; MZRB-33; MZRB-47; MZRB-60; MZRB-80

Date	Action	Equip	Results/Comments
10/04/90	Remove mill scale	-	HCL acid clean both sides
10/04/90	15 hrs • 120/160 F	H	Light rusting
10/05/90	Clean	-	Consultant gel XIX-01 (5 min)/ Rinse
10/05/90	Coat	-	Brush coat 1 layer as shown above drawing
10/06/90	Cure 1 hr 0 487 F	0	slow to temperature
10/08/90	1 hr 0 -100 F	С	
10/08/90	1 hr 0 600 F	С	autocycle
10/08/90	20 hrs • 120 F	H	Very humid
10/09/90	1 hr 0 -100 F	C	
10/10/90	Test (Location 1 TR)	A	-33 1000 PSI (100% F)
10/10/90	Test (Location 2 CL)	A	-47 700 PSI (100% F)
10/10/90	Test (Location 3 CR)	A	-60 >1000 PSI (100% F)
10/10/90	Test (Location 4 BL)	A	-80 700 PSI (100% F)

Set: 21 Sample: 9016 Comments: page 2

Materials: MZRB Blends; Zinc loadings

Date	Action	Equip	Results/Comments
10/10/90	1 hr ● -100 F	С	
10/10/90	8 hrs • 350 F	0	
10/11/90	18 hrs 0 120 F	Н	very humid
10/19/90	65 hrs • 100 F	Н	very_humid
10/22/90	24 hrs 0 120/135 F	Н	very humid
11/08/90	89 hrs 0 140 F	Н	very humid no rusting under good coating 33% best
11/26/90	1 hr 0 450 F	С	
11/26/90	4 hrs • 600 F	0	
11/27/90	6 hrs 0 600 F	0	
11/27/90	40 hrs 0 140 F	Н	very humid
11/29/90	4.5 hrs 0 550 F	0	
11/29/90	20 hrs 0 140 F	Н	very humid

0

MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9016

Comments: page 3

Materials: MZRB Blends; Zinc loadings

Date	Action	Equip	Results/Comments
12/03/90	Test (Location 5 TR)	Α	>1050 PSI
12/03/90	Test (Location 6 CL)	A	>1050 PSI
12/03/90	Test (Location 7 CR)	A	1050 PSI (50% C; 50% F)
12/03/90	Test (Location 8 BL)	A	1000 PSI (50% C; 50% F)
12/04/90	3 hrs 0 550 F1	0	
12/04/90	15 hrs # 120-160 F	Н	dry
12/05/90	1 hr 0 -100 F	С	
12/05/90	1 hr 0 600 F	С	auto
12/05/90	16 hrs # 120 F	Н	
12/06/90	1 hr 0 -110 F	С	auto
12/06/90	3 hrs 0 560 F	0	
12/07/90	5 hrs 0 560 F	0	
12/08/90	1 hr 0 -110 F	С	auto

Set: 21 Sample: 9016 Comments: page 4

Materials: MZRB Blends; Zinc loadings

Date	Action	Equip	Results/Comments
12/10/90	1 hr 0 -110 F	С	auto
12/10/90	3 hrs 0 570 F	0	
12/11/90	1 hr 0 -110 F	С	auto
12/11/90	3 hrs 0 570 F	0	
12/12/90	3 hrs 0 580 F	0	removed at 225 F end before ambient
12/12/90	1 hr 0 -110 F	С	removed at 20 F autoclycle close to end
12/12/90	18 hrs # 140 F	Н	very humid
12/13/90	5 hrs 0 580 F	0	
12/15/90	30 hrs 0 115-140	Н	dry
12/15/90	15 hrs 0 120 F	Н	humid
12/17/90	3 hrs 0 560 F	0	
12/17/90	32 hrs 0 140 F	Н	very humid
12/17/90	12 hrs 0 120 F	Н	very humid
12/19/90	3 hrs 0 560 F	0	

Set: 21

Sample: 9016

Comments: page 5

Materials: MZRB Blends; Zinc loadings

Date	Action	Equip	Results/Comments
12/19/90	1 hr 0 -110	С	auto
12/28/90	Test (Location 9 BMR)	A	400 PSI (90% C/I; 10% F) highest filler
12/28/90	Test (Location 10)	A	200 PSI (50% F; 50% C/I) high filler
	STOP TESTING		

Set: 21 Sample: 9017 Comments:

Materials: MARB-blend; MARB-15; MARB-33; MARB-47

Date	Action	Equip	Results/Comments	
10/04/90	Remove mill scale	-	HCL acid clean both sides	
10/04/90	15 hrs • 120/160 F	Н	Light rusting	
10/05/90	Clean	-	Consultant gel XIX-01 (5 min)/ Rinse
10/05/90	Coat	-	Brush coat 1 layer	
			Let dry 15 minutes between c	oats
	Coat	-	Brush 2nd coat	
10/06/90	Cure 1 hr 0 487 F	0	slow to temperature	
10/08/90	1 hr 0 -100 F	С		1/2 soaked to center (scratched)
10/08/90	1 hr 0 600 F	С	autocycle	o cracking in blend
10/08/90	20 hrs 0 120 F	Н	Very humid	o Failing on non-soaked side
10/09/90	1 hr 0 -100 F	С		o Rusting at cracks, & exposed interface
10/10/90	Test (Location 1 TR)	A	>1000 PSI no failure	and under blend Dolly knocked off
10/10/90	Test (Location 2 CL)	Α	>1000 PSI no failure	

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MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9017

Comments: page 2

Materials: MARB variations

Date	Action	Equip	Results/Comments
10/10/90	Test (Location 3 CR)	Α	>1000 PSI no failure
10/10/90	Test (Location 4 BL)	A	>1000 PSI no failure
10/10/90	1 hr 0 -100 f	С	
10/10/90	8 hrs 0 350 F	0	
10/11/90	18 hrs 0 120 F	Н	very humid
10/19/90	65 hrs 0 100 F	H	very humid
10/22/90	24 hrs 0 120/135 F	Н	very humid
11/08/90	89 hrs 0 140 f	Н	very humid
11/26/90	1 hr 0 450 F	Ċ	
11/26/90	4 hrs 0 600 F	0	
11/27/90	6 hrs • 600 F	0	
11/27/90	40 hrs 0 140 F	Н	very humid
11/29/90	4.5 hrs 0 550 F	0	
11/29/90	20 hrs 0 140 F	Н	very humid

Set: 21

Sample: 9017

Comments: page 3

Materials: MARB Blend; Aluminum filler loadings

Date	Action	Equip	Results/Comments	
12/03/90	Test (Location 5 TL)	A	>1000 PSI	resin blend
12/03/90	Test (Location 6 CR)	A	>1050 PSI	MARB-15
12/03/90	Test (Location 7 CL)	A	>1000 PSI	MARB-33
12/03/90	Test (Location 8 BR)	A	900 PSI (90% C/I; 10% dolly)	·
12/04/90	3 hrs • 550 F1	0	***************************************	
12/04/90	15 hrs 0 120-160 F	Н	dry	
12/05/90	1 hr 0 -100 F	С	***************************************	
12/05/90	1 hr 0 600 F	С	auto	
12/05/90	16 hrs 0 120 F	Н	*	
12/06/90	1 hr 0 -110 F	С	auto	
12/06/90	3 hrs 0 560 F	0	***************************************	•
12/07/90	5 hrs @ 560 F	0	*	
12/08/90	1 hr 0 -110 F	C	auto	

Set: 21 Sample: 9017 Comments: page 4

Materials: Aluminum loadings

Action	Equip	Results/Comments
1 hr 0 -110 F	С	auto
3 hrs 0 570 F	0	
1 hr 0 -110 F	C	auto
3 hrs 0 570 F	0	
3 hrs 0 580 F	0	removed at 225 F end before ambient
1 hr 0 -110 F	С	removed at 20 F autoclycle close to end
18 hrs 0 140 F	Н	very humid
5 hrs 0 580 F	0	
30 hrs 0 115-140	Н	dry
15 hrs 0 120 F	H .	humid
3 hrs 0 560 F	0	
32 hrs 0 140 F	Н	very humid
12 hrs 0 120 F	Н	very humid
3 hrs 0 560 F	0	
	1 hr 0 -110 F 3 hrs 0 570 F 1 hr 0 -110 F 3 hrs 0 570 F 3 hrs 0 580 F 1 hr 0 -110 F 18 hrs 0 140 F 5 hrs 0 580 F 30 hrs 0 115-140 15 hrs 0 120 F 3 hrs 0 140 F 12 hrs 0 120 F	1 hr 0 -110 F C 3 hrs 0 570 F O 1 hr 0 -110 F C 3 hrs 0 570 F O 3 hrs 0 580 F O 1 hr 0 -110 F C 18 hrs 0 140 F H 5 hrs 0 580 F O 30 hrs 0 115-140 H 15 hrs 0 120 F H 3 hrs 0 140 F H 12 hrs 0 120 F H

Set: 21 Sample: 9017 Comments: page 5

Materials: Aluminum loadings

Date	Action	Equip	Results/Comments
12/19/90	1 hr 0 -110	С	auto
12/28/90	Test (Location 9 TMR)	A	>1000 PSI (90% F; 10 % dolly) low filler
12/28/90	Test (Location 10 LML)	A	650 PSI (90% F; 10% C/I) highest filler
			STOP TESTING Conclusions drawn
			,

Page 1

Set-Sample: 22P - 9100 Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-DC45; Blends; MARB-45; MZRB-50

1_35_9	1
2_10_4_6_	

Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/14/91	Clean		Gel clean 15 minutes
01/14/91	Coat panel		Brush coat MARB-DC-47;blends;MARB-47;MZRB
01/14/91	1 hr 0 487 F	0	Cure
01/15/91	1 hr 0 -110 F	С	cold autocycle
01/15/91	1 hr 0 600 F	С	hot autocycle
01/15/91	16 hrs 0 118 F	Н	Humid (MZRB has 100% mudcracking)
01/16/91	1/2 hr 0 -95 F	C	Low liquid N ₂ (MARB-DC-X1-0409 cracks)
01/16/91	20 hrs 0 120 F	Н	very humid
01/17/91	15 hrs @ 120 F	Н	very humid
01/18/91	28 hrs 0 120 F	Н	dry
01/19/91	1 hr 0 -110 F	C	autocycle cold
01/19/91	1 hr 0 580 F	0	hot
01/21/91	1 hr 0 -100 F	С	cold
01/21/91	2 hrs 0 600 F	0	hot
01/22/91	2 hrs 0 610 F	0	hot
01/22/91	1 hr 0 -110 F	С	cold
01/22/91	16 hrs 0 115 F	Н	humid
01/23/91	1 hr 0 -110 F	С	cold
01/26/91 01/26/91	Test (Location 1) Test (Location 2)	A A	1000 PSI (90% F; 8% dolly; 2% C) 800 PSI (75% F; 20% C; 5% dolly)

	MRC Fabric	ation/Cond	iitioning/Test Form 91-1	Page 2		
Set-Sample	Set-Sample: 22P - 9100 Comments:					
Materials:	see page 1					
Equip Defi	nitions: See Page 1					
Date	Action	Equip	Results/Comments			
01/30/91	1 hr 0 -110 F	С	cold	1444444444		
01/30/91	41 hrs 0 115 F	Н	very humid			
02/01/91	1 hr 0 -110 F	С	autocycle			
02/01/91	1 hr @ 600 F	С	autocycle hot			
02/04/91	2.5 hrs 0 600 F	0	dry heat			
02/04/91	42 hrs @ 115-150 F	Н	very humid			
02/06/91	2.5 hrs 0 58 F	0				
02/07/91	3 hrs @ 590 F	0				
02/08/91	1 hr 0 -100 F	С	autocycle			
02/09/91	1 hr 0 -100 F	С	autocycle			
02/11/91	1 hr @ -100 F	С	autocycle			
02/11/91	2 hrs 0 620 F	0	dry heat			
02/11/91	16 hrs 0 115 F	Н				
02/12/91	1 hr 0 -100 F	С	autocycle			
02/12/91	2 hrs 0 600 F	0		,		
02/12/91	18 hrs 0 115 F	Н	,	.========		
02/13/91	1 hr 0 -100 F	С		,		
02/13/91	15 hrs 0 118 F	Н				
02/14/91	1 hr 0 -100 F	С		**********		
02/14/91	2 hrs @ 590 F	0				
02/14/91	16 hrs 0 120 F	Н				

Page 3

Set-Sample: 22P - 9100 Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-DC45; Blends; MARB-45; MZRB-50

1_35_9	
2_10_46_	

Date	Action	Equip	Results/Comments
02/15/91	0.5 hrs 0 -40 F	C	
02/18/91 02/18/91	Test (Location 3) Test (Location 4)	A A	500 PSI (100% C) 700 PSI (50% C, 50% F)
02/22/91	2 hrs @ 590 F	0	
02/22/91	19 hrs @ 115 F	Н	
C2/25/91	2 hr 9 600 F	0	
02,′25/91	1 hr @ -100 F	С	autocycle
02/27/91	1 hr 0 -100 F	С	autocycle
02/27/91	2 hrs @ 350 F	0	
02/28/91	1 hr @ -100 F	С	auto
02/28/91	2 hrs @ 600 F	0	
02/28/91	18 hrs @ 115 F	Н	humid
03/04/91 03/04/91	Test (Location 5) Test (Location 6)	A A	550 PSI (100% C) 600 PSI (50% C; 50% F)
03/04/91	1 hr 0 487 F	0	
03/04/91	1 hr 0 -100 F	С	
03/05/91	1 hr 9 -100 F	Н	
03/05/91	1 hr 9 600 F	0	
03/05/91	16.5 hrs 0 116 F	Н	
03/08/91	1 hr 0 -100 F	С	
03/08/91	2 hrs 0 600 F	0	

Page 4

Set-Sample: 22P - 9100 Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-DC45; Blends; MARB-45; MZRB-50

1_3_	5_9_
2_10_4	6_

03/08/91 64 hrs @ 140 F	Date	Action	Equip	Results/Comments
03/11/91 2 hrs @ 600 F	03/08/91	64 hrs @ 140 F	Н	very humid
03/11/91 17 hrs @ 115 F H 03/12/91 1 hr @ -100 F C 03/12/91 1 hr @ 480 F 0 03/12/91 16 hrs @ 115 F H 03/14/91 Test (Location 7) A 400 PSI (80% C/I; 18% C; 2% F, dolly) 03/14/91 Test (Location 8) A 700 PSI (10% C; 40% F; 50% dolly) 03/19/91 3 hrs @ 610 F 0 03/28/91 Test (Location 9) A 400 PSI (100% C)	03/11/91	1 hr 0 -100 F	С	
03/12/91 1 hr @ -100 F C 03/12/91 1 hr @ 480 F 0 03/12/91 16 hrs @ 115 F H 03/14/91 Test (Location 7) A 400 PSI (80% C/I; 18% C; 2% F, dolly) 03/14/91 Test (Location 8) A 700 PSI (10% C; 40% F; 50% dolly) 03/19/91 3 hrs @ 610 F 0 03/28/91 Test (Location 9) A 400 PSI (100% C)	03/11/91	2 hrs @ 600 F	0	
03/12/91 1 hr @ 480 F	03/11/91	17 hrs @ 115 F	Н	
03/12/91 16 hrs @ 115 F H 03/14/91 Test (Location 7) A 400 PSI (80% C/I; 18% C; 2% F, dolly) 03/14/91 Test (Location 8) A 700 PSI (10% C; 40% F; 50% dolly) 03/19/91 3 hrs @ 610 F 0 03/28/91 Test (Location 9) A 400 PSI (100% C)	03/12/91	1 hr @ -100 F	C	
03/14/91 Test (Location 7) A 400 PSI (80% C/I; 18% C; 2% F, dolly) 03/14/91 Test (Location 8) A 700 PSI (10% C; 40% F; 50% dolly) 03/19/91 3 hrs @ 610 F 0 03/28/91 Test (Location 9) A 400 PSI (100% C)	03/12/91	1 hr @ 480 F	0	
03/14/91 Test (Location 8) A 700 PSI (10% C; 40% F; 50% dolly) 03/19/91 3 hrs @ 610 F 0 03/28/91 Test (Location 9) A 400 PSI (100% C)	03/12/91	16 hrs @ 115 F	Н	
03/19/91 3 hrs @ 610 F 0 03/28/91 Test (Location 9) A 400 PSI (100% C)	03/14/91	Test (Location 7)	A	400 PSI (80% C/I; 18% C; 2% F, dolly)
03/28/91 Test (Location 9) A 400 PSI (100% C)	03/14/91	Test (Location 8)	A	700 PSI (10% C; 40% F; 50% dolly)
	03/19/91	3 hrs 0 610 F	0	
03/28/91 Test (Location 10) A 825 PSI (20% C/I; 50% F; 30% dolly)	03/28/91	Test (Location 9)	A	400 PSI (100% C)
	03/28/91	Test (Location 10)	A	825 PSI (20% C/I; 50% F; 30% dolly)

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MRC Fabrication "onditioning/Test Form 91-1 Page 1

Set-Samp	le:	22	-	9101	Comments:
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Substrate/Preparation: 285/ light rusting

Materials: MARB-45 Dilute

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber;

	H = Humidit A = Adhesio	y Chamber; n Tester;	T = Misc Tests
Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45 dilute
01/17/91	1 hr @ 487 F	0	Cure slow to temperature
01/17/91	15 hrs @ 120 F	Н	very humid
01/18/91	28 hrs @ 120 F	Н	dry
01/19/91	1 hr 0 -110 F	С	autocycle cold
01/19/91	1 hr 0 580 F	0	hot
01/21/91	1 hr 0 -100 F	С	cold
01/21/91	2 hrs 0 600 F	0	hot
01/22/91	2 hrs @ 610 F	0	hot
01/22/91	1 hr 0 -110 F	С	cold
01/22/91	16 hrs 0 115 F	Н	humid
01/23/91	1 hr @ -110 F	С	cold
01/26/91	Test (Location 1)	A	550 PSI (100% C) Testing stopped
	Some coating failure	- Ambient	control, compare with 9102 or 9103

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1

Set-Sample: 22 - 9102 Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-45 dilute

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber;

H = Humidity Chamber; A = Adhesion Tester; T = Misc Tests

Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45 dilute
01/17/91	1 hr 0 487 F	0	Cure slow to temperature
01/17/91	15 hrs 0 120 F	Н	very humid
01/18/91	28 hrs 0 120 F	Н	dry
01/19/91	1 hr 0 -110 F	С	autocycle cold
01/19/91	1 hr 0 580 F	0	hot
01/21/91	1 hr € -100 F	С	cold
01/21/91	2 hrs @ 600 F	0	hot
01/22/91	2 hrs 0 610 F	0	hot
01/22/91	1 hr 0 -110 F	С	cold
01/22/91	16 hrs 0 115 F	Н	humaid
01/23/91	1 hr 0 -110 F	С	cold
01/26/91	Test (Location 1)	A	600 PSI (100% C)
01/30/91	1 hr 0 -110 F	С	cold
J1/30/91	41 hrs 0 115 F	Н	very humid
02/01/91	1 hr 0 -110 F	С	autocycle
02/01/91	1 hr 0 600 F	С	autocycle
02/04/91	2.5 hrs @ 600 F	0	dry, heat

	MRC Fabri	cation/Co	nditioning/Test Form 91	l-1 Page 2		
Set-Sampl	e: 22 - 9102 Comm	ents:		,		
Materials: MARB-45						
Equip Def	Equip Definitions: See Page 1					
Date	Action		Results/Comments			
	42 hrs 0 115-150 F		very humid			
	STOP TESTING - Poor	coating	(too dilute)/ failure b	y flaking		
			•••••			
			•••••			

Page 1

1

Set-Sample: 22 - 9103 Comments:

Substrate/Preparation: 203/ light rusting

Materials: MARB-45 dilute

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber;

H = Humidity Chamber; A = Adhesion Tester; T = Misc Tests

Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45 dilute
01/17/91	1 hr 0 487 F	0	Cure slow to temperature
01/17/91	15 hrs @ 120 F	Н	very humid
01/18/91	28 hrs @ 120 F	Н	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	l hr 0 580 F	0	hot
01/21/91	1 hr 0 -100 F	C	cold
01/21/91	2 hrs @ 600 F	0	hot
01/22/91	2 hrs 0 610 F	0	hot
01/22/91	l hr @ -110 F	С	cold
01/22/91	16 hrs @ 115 F	Н	humid
01/23/91	1 hr 0 -110 F	С	cold
01/26/91	Test (Location 1)	A	500 PSI (15% C/I; 70% C; 15% dolly)
01/30/91	1 hr 0 -110 F	C	cold
01/30/91	41 hrs @ 115 F	Н	very humid
02/01/91	1 hr @ -110 F	С	autocycle
02/01/91	1 hr @ 600 F	C	autocycle
02/04/91	2.5 hrs 0 600 F	0	dry heat

	MRC	Fabrication/Co	nditioning/Test For	m 91-1	Page 2
Set-Sample	: 22 - 9103	Comments:			 ,
Materials:	MARB-45				
Equip Defi	nitions: See	Page 1			
Date	Action	Equip	Results/Comments	-	
02/04/91	42 hrs 0 115	-150 F H	very humid		
	STOP TESTING	- poor coating,	too dilute; failur		

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Set-Sample: 22P - 9200 Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-40; MARB-DC-40

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber;

H = Humidity Chamber; A = Adhesion

1	3
2	4

Date	Action	Equip	Results/Comments
12/14/90	HCL clean		Mill scale removed both sides
01/14/91	Clean		Gel clean 15 minutes
01/14/91	Coat panel	-	Brush coat MARB-40; MARB-DC-47
01/14/91	1 hr 0 487 F	0	Cure
01/15/91	1 hr 0 -110 F	С	cold autocycle
01/15/91	1 hr 0 600 F	С	hot autocycle
01/15/91	16 hrs 0 118 F	Н	Humid
01/16/91	1/2 hr 0 -95 F	C	Low liquid N ₂
01/16/91	20 hrs @ 120 F	Н	very humid
01/17/91	15 hrs @ 120 F	Н	very humid
01/18/91	28 hrs @ 120 F	Н	dry
01/19/91	1 hr 0 -110 F	С	autocycle cold
01/19/91	1 hr 0 580 F	0	hot
01/21/91	1 hr 0 -100 F	С	cold
01/21/91	2 hrs 0 600 F	0	hot
01/22/91	2 hrs 0 610 F	0	hot
01/22/91	1 hr 0 -110 F	С	cold
01/22/91	16 hrs @ 115 F	Н	humid
01/23/91	1 hr 0 -110 F	C	cold
01/26/91 01/26/91	Test (Location 1) Test (Location 2)	A A	1000 PSI (40% C; 40% F; 20% dolly) 1000 PSI (50% C; 40% F; 10% dolly)

Set-Sample: 22P - 9200 Comments:

Materials: see page 1

Equip Definitions: See Page 1					
Date	Action	Equip	Results/Comments		
01/30/91	1 hr @ -110 F	С	cold		
01/30/91	41 hrs 0 115 F	Н	very humid		
02/01/91	1 hr @ -110 F	С	autocycle		
02/01/91	1 hr 0 600 F	С	autocycle hot		
02/04/91	2.5 hrs 0 600 F	0	dry heat		
02/04/91	42 hrs @ 115-150 F	Н	very humid		
02/06/91	2.5 hrs 0 58 F	0			
02/07/91	3 hrs @ 590 F	0			
02/08/91	1 hr 0 -100 F	C	autocycle		
02/09/91	1 hr 0 -100 F	С	autocycle		
02/11/91	1 hr @ -100 F	С	autocycle		
02/11/91	2 hrs 0 620 F	0	dry heat		
02/11/91	16 hrs @ 115 F	Н			
02/12/91	1 hr @ -100 F	С	autocycle		
02/12/91	2 hrs 0 600 F	0			
02/12/91	18 hrs 0 115 F	Н			
02/13/91	1 hr 0 -100 F	С			
02/13/91	15 hrs 0 118 F	Н			
02/14/91	1 hr 0 -100 F	С			
02/14/91	2 hrs 0 590 F	0			
02/14/91	16 hrs 0 120 F	Н			
	· · ·				

#### MRC Fabrication/Conditioning/Test Form 91-1 Page 3 Set-Sample: 22P - 9200 Comments: 3 Materials: see page 1 Equip Definitions: See Page 1 2 6 4 Action Equip Results/Comments 02/15/91 0.5 hrs 0 -40 F C Test (Location 3) Test (Location 4) 150 PSI (100% C) 100 PSI (100% C) 02/18/91 Α A 02/18/91 2 hrs @ 590 F 02/22/91 02/22/91 19 hrs 0 115 F Н 02/25/91 2 hrs @ 600 F 0 02/25/91 C 1 hr 0 -100 F 02/27/91 1 hr 0 -100 F C 02/27/91 2 hrs 0 350 F 0 02/28/91 1 hr @ -100 F C 0 02/28/91 2 hrs @ 600 F 02/28/91 18 hrs @ 115 F 03/04/91 700 PSI (100% C) Test (Location 5) Α 750 PSI (100% C) 03/04/91 Test (Location 6)

Page 1

1

Set-Sample: 22R - 9201 Comments: Repair test on panel 8701

Substrate/Preparation: 516/ remove loose MARB

Materials: MARB-45 dilute

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber;

H = Humidity Chamber; A = Adhesion Tester; T = Misc Tests

	A = Adnesion lester; I = Misc lests			
Date	Action	Equip	Results/Comments	
Formerly	Panel 8701 (See form 9	0-1)	Gel clean and tape remove loose MARB	
01/15/91	Clean	•	Gel clean 15 minutes	
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45	
01/17/91	1 hr @ 487 F	0	Cure slow to temperature	
01/17/91	15 hrs 0 120 F	Н	very humid	
01/18/91	28 hrs @ 120 F	Н	dry	
01/19/91	1 hr 0 -110 F	С	autocycle cold	
01/19/91	1 hr 0 580 F	0	hot	
01/21/91	1 hr @ -100 F	С	cold	
01/21/91	2 hrs @ 600 F	0	hot	
01/22/91	2 hrs 0 610 F	0	hot	
01/22/91	1 hr 0 -110 F	С	cold	
01/22/91	16 hrs 0 115 F	Н	humid	
01/23/91	1 hr 0 -110 F	С	cold	
01/26/91	Test (Location 1)	A	300 PSI (60% C/I; 30% C; 10 % A rusty)	
	STOP TESTING			
03/05/91	coating completely a	emoved wit	h 3M sander stripper	
			***************************************	

Substrate/Preparation: 516/ remove loose MARB

Materials: MAR8-45 dilute

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber;

Date	Action	Equip	Results/Comments
Formerly (	Panel 8702 (See form !	90-1)	Gel clean and tape remove loose MARB
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45
01/17/91	1 hr 0 487 F	0	Cure slow to temperature
01/17/91	15 hrs # 120 F	Н	very humid
01/18/91	28 hrs 0 120 F	Н	dry
01/19/91	1 hr 0 -110 F	С	autocycle cold
01/19/91	1 hr 0 580 F	0	hot
01/21/91	1 hr 0 -100 F	С	cold
01/21/91	2 hrs 0 600 F	0	hot
01/22/91	2 hrs 0 610 F	0	hot
01/22/91	1 hr 0 -110 F	С	cold
01/22/91	16 hrs 0 115 F	Н	humid
01/23/91	1 hr 0 -110 F	С	cold
01/26/91	Test (Location 1)	A	200 PSI (50% C/I; 50% C aluma)
01/30/91	1 hr 0 -110 F	С	cold
01/30/91	41 hrs 0 115 F	Н	very humid
02/01/91	1 hr 0 -110 F	С	autocycle cold
02/01/91	1 hr 0 600 F	C	autocycle hot
02/04/91	2.5 hrs 0 600 F	0	dry heat STOP TESTING - FAILURE
03/05/91	Coating completely	removed in	1 minute with 3M sander stripper

Page 1

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### MRC Fabrication/Conditioning/Test Form 91-1

Substrate/Preparation: 516/ remove loose MARB

Materials: MARB-45 dilute

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber;

			· · · · · · · · · · · · · · · · · · ·
Date	Action	Equip	Results/Comments
Formerly	Panel 8603 (See form	90-1)	Gel clean and tape remove loose MARB
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45
01/17/91	1 hr 0 487 F	0	Cure slow to temperature
01/17/91	15 hrs @ 120 F	Н	very humid
01/18/91	28 hrs @ 120 F	Н	dry
01/19/91	1 hr 0 -110 F	С	autocycle cold
01/19/91	1 hr 0 580 F	0	hot
01/21/91	1 hr 0 -100 F	С	cold
01/21/91	2 hrs 0 600 F	0	hot
01/22/91	2 hrs 0 610 F	0	hot
01/22/91	1 hr 0 -110 F	С	cold
01/22/91	16 hrs 0 115 F	Н	humid
01/23/91	1 hr 0 -110 F	C	cold
01/26/91	Test (Location 1)	A	100 PSI (100% C/I grey - 1/2% F)
01/30/91	1 hr 0 -110 F	С	cold
01/30/91	41 hrs 0 115 F	Н	very humid
02/01/91	1 hr 0 -110 F	С	autocycle cold
02/01/91	1 hr 0 600 F	С	autocycle hot
02/04/91	2.5 hrs 0 600 F	0	dry heat STOP TESTING - FAILURE
03/05/91	Coating completely	removed in	1 minute with 3M sander stripper

Set/Sample: 22P - 9300 Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-DC-40

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber: A = Adhesion

	H = Humidi	ty Chamber;	A = Adhesion
Date	Action	Equip	Results/Comments
12/14/90	HCL clean		Mill scale removed both sides
01/14/91	Clean	-	Gel clean 15 minutes
01/14/91	Coat panel		Brush coat MARB-DC-40
01/14/91	1 hr 0 487 F	0	Cure
01/15/91	1 hr 0 -110 F	C	cold autocycle
01/15/91	1 hr 0 600 F	С	hot autocycle
01/15/91	16 hrs @ 118 F	Н	Humid
01/16/91	1/2 hr 0 -95 F	С	Low liquid N ₂
01/16/91	20 hrs @ 120 F	Н	very humid
01/17/91	15 hrs @ 120 F	Н	very humid
01/18/91	28 hrs 0 120 F	Н	dry
01/19/91	1 hr 0 -110 F	С	autocycle cold
01/19/91	1 hr 0 580 F	0	hot
01/21/91	1 hr 0 -100 F	С	cold
01/21/91	2 hrs 0 600 F	0	hot
01/22/91	2 hrs 0 610 F	0	hot
01/22/91	1 hr 0 -110 F	С	cold
01/22/91	16 hrs 0 115 F	Н	humid
01/23/91	1 hr 0 -110 F	С	cold
01/26/91	Test (Location 1)	A	1000 PSI (10% C; 80% F; 10% dolly)

	MRC Fabri	ication/Con	nditioning/Test Form 91-1 Page 2
Set-Sample	e: 22P - 9300 Com	ments:	,
Materials	: see page l		
Equip Def	initions: See Page 1	l	
Date	Action	Equip	Results/Comments
01/30/91	1 hr 0 -110 F	С	cold
01/30/91	41 hrs 0 115 F	Н	very humid
02/01/91	1 hr 0 -110 F	C	autocycle
02/01/91	1 hr 0 600 F	С	autocycle hot
02/04/91	2.5 hrs 0 600 F	0	dry heat
02/04/91	42 hrs 0 115-150 F	Н	very humid
02/06/91	2.5 hrs 0 58 F	0	·
02/07/91	3 hrs 0 590 F	0	
02/08/91	1 hr @ -100 F	C	autocycle
02/09/91	1 hr 0 -100 F	C	autocycle
02/11/91	1 hr @ -100 F	C	autocycle
02/11/91	2 hrs @ 620 F	0	dry heat
02/11/91	16 hrs 0 115 F	Н	
02/12/91	1 hr 0 -100 F	C	autocycle
02/12/91	2 hrs 0 600 F	0	
02/12/91	15 hrs 0 118 F	Н	
02/13/91	1 hr 0 -100 F	С	
02/13/91	15 hrs 0 118 F	Н	
02/14/91	1 hr 0 -100 F	С	
02/14/91	2 hrs 0 590 F	0	
02/14/91	16 hrs 0 120 F	Н	

Page 3

Set-Sample: 22P - 9300 Comments:

Materials: see page 1

Equip Definitions: See Page 1

3	2	
1		

Date	Action	Equip	Results/Comments
02/15/91	0.5 hrs 0 -40 F	C	••••••
02/18/91	Test (Location 2)	A	>1000 PSI (no failure)
02/22/91	2 hrs 0 590 F	0	
02/22/91	19 hrs @ 115 F	Н	
02/25/91	2 hrs 0 600 F	0	
02/25/91	1 hr 0 -100 F	C	
02/27/91	1 hr 0 -100 F	C	
02/27/91	2 hrs 0 350 F	0	
02/28/91	1 hr 0 -100 F	ç	
02/28/91	2 hrs 0 600 F	0	
02/28/91	18 hrs @ 115 F	Н	
03/04/91	Test (Location 3)	A	600 PSI (80% C; 20% F)
03/04/91	1 hr 0 487 F	0	
03/04/91	1 hr 0 -100 F	С	
03/05/91	1 hr 0 -100 F	C	
03/05/91	1 hr 0 600 F	0	
03/05/91	16.5 hrs 0 116 F	Н	
	***********		
	***********		•

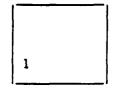
Page 1

Set-Sample: 23 - 9301 Comments:

Substrate/Preparation: 285/ light rusting

Materials: MARB-DC-40

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester; T = Misc Tests



	A = Adhesic	on lester;	A = Adhesion lester; I = Misc lests			
Date	Action	Equip	Results/Comments			
12/14/90	HCL clean	•	Mill scale removed both sides			
01/15/91	Clean	•	Gel clean 15 minutes			
01/16/91	Coat panel	•	Spray coat 3 layers of MARB-DC-40			
01/17/91	1 h <b>r 0 487</b> F	0	Cure slow to temperature			
01/17/91	15 hrs 0 120 F	Н	very humid			
01/18/91	28 hrs 0 120 F	Н	dry			
01/19/91	1 hr 0 -110 F	С	autocycle cold			
01/19/91	1 hr @ 580 F	0	hot			
01/21/91	1 hr @ -100 F	С	co1d			
01/21/91	2 hrs 0 600 F	0	hot			
01/22/91	2 hrs @ 610 F	0	hot			
01/22/91	1 hr 0 -110 F	С	cold			
01/22/91	16 hrs 0 115 F	н	humid			
01/23/91	1 hr 0 -110 F	С	cold			
01/26/91	Test (Location 1)	A	1000 PSI (10% C; 70% F; 20% dolly)			
	STOP TESTING - Conti	ol ambient	panel for 9302-9303 Looks spotty			
02/25/91	one of two panels to	CDN for H	B salt-spray environment testing			
***************************************						

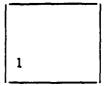
Page 1

Set-Sample: 23 - 9302 Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-DC-40

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester; T = Misc Tests



	A - Adnesion lester;   - Mist lests				
Date	Action	Equip	Results/Comments		
12/14/90	HCL clean	-	Mill scale removed both sides		
01/15/91	Clean	-	Gel clean 15 minutes		
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-DC-40		
01/17/91	1 h <b>r 0</b> 487 F	0	Cure slow to temperature		
01/17/91	15 hrs @ 120 F	Н	very humid		
01/18/91	28 hrs 0 120 F	Н	dry		
01/19/91	1 hr 0 -110 F	С	autocycle cold		
01/19/91	1 hr 0 580 F	0	hot		
01/21/91	1 hr 0 -100 F	С	cold		
01/21/91	2 hrs 0 600 F	0	hot		
01/22/91	2 hrs 0 610 F	0	hot		
01/22/91	1 hr 0 -110 F	С	cold		
01/22/91	16 hrs 0 115 F	Н	humid		
01/23/91	1 hr 0 -110 F	С	cold		
01/26/91	Test (Location 1)	A	1000 PSI (50% C; 50% F; 6% dolly)		
01/30/91	1 hr 0 -110 F	С	autocycle		
01/30/91	41 hrs 0 115 F	Н	very humid		
02/01/91	1 hr 0 -110 F	С	autocycle		
02/01/91	1 hr 0 600 F	С	autocycle		
02/04/91	2.5 hrs 0 600 F	0	dry heat		

Set-Sample: 23 - 9302 Comments: Repair test

Materials: MARB-DC-40

Equip Definitions: See Page 1

Date	Action	Equip	Results/Comments	١	'
02/04/91	42 hrs @ 115-150 F	Н	very humid		
02/06/91	2.5 hrs 0 58 F	0	******************		
02/07/91	3 hrs 0 590 F	0			
02/08/91	1 hr @ -100 F	С	autocycle		
02/09/91	1 hr @ -100 F	С	autocycle		
02/11/91	1 hr @ -100 F	С	autocycle		******
02/11/91	2 hrs @ 620 F	0	dry heat		
2/11/91	16 hrs @ 115 F	н		•	
2/12/91	1 hr @ -100 F	С	autocycle		
2/12/91	2 hrs 0 600 F	0			
2/12/91	18 hrs 0 115 F	н			
2/13/91	1 hr 0 -100 F	С			
2/13/91	15 hrs @ 118 F	Н			
2/14/91	1 hr 0 -100 F	С		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
2/14/91	2 hrs 0 590 F	0			
2/14/91	16 hrs @ 120 F	Н			
2/15/91	0.5 hrs 0 -40 F	С		·	
2/18/91	Test (Location 2)	A	100 PSI (90% C, 10% F	;)	
2/19/91	STOP TESTING		poor results	******	
3/05/91	Coating completely i	removed in	n 1 minute with 3M sande	r stripper	

Page 1

Set-Sample: 23 - 9303 Comments:

Substrate/Preparation: 203/ light rusting

Materials: MARB-DC-40

Equip Definitions: 0 = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester; T = Misc Tests

2		
1		

Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-DC-40
01/17/91	1 hr 0 487 F	0	Cure slow to temperature
01/17/91	15 hrs 0 120 F	Н	very humid
01/18/91	28 hrs 0 120 F	Н	dry
01/19/91	1 hr 0 -110 F	С	autocycle cold
01/19/91	1 hr 0 580 F	0	hot
01/21/91	1 hr 0 -100 F	С	cold
01/21/91	2 hrs @ 600 F	0	hot
01/22/91	2 hrs 0 610 F	0	hot
01/22/91	1 hr 0 -110 F	С	cold
01/22/91	16 hrs 0 115 F	Н	humaid
01/23/91	1 hr 0 -110 F	С	cold
01/26/91	Test (Location 1)	A	1000 PSI (70% C; 20% F; 10% dolly)
01/30/91	1 hr 0 -110 F	С	cold
01/30/91	41 hrs 0 115 F	Н	very humid
02/01/91	1 hr 0 -110 F	С	autocycle
02/01/91	1 hr 0 600 F	С	auticycle
02/04/91	2.5 hrs 0 600 F	0	dry heat

Page 2

Set-Sample: 23 - 9303 Comments: Repair test

Materials: MARB-DC-40

Equip Definitions: See Page 1

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Date	Action	Equip	Results/Comments
02/04/91	42 hrs @ 115-150 F	н	very humid
02/06/91	2.5 hrs @ 58 F	0	
02/07/91	3 hrs 0 590 F	0	
02/08/91	1 hr 0 -100 F	С	autocycle
02/09/91	1 hr @ -100 F	С	autocycle
02/11/91	1 hr 0 -100 F	С	autocycle
02/11/91	2 hrs 0 620 F	0	dry heat
02/11/91	16 hrs @ 115 F	Н	
02/12/91	l hr @ -100 F	С	autocycle
02/12/91	2 hrs @ 600 F	0	
02/12/91	18 hrs @ 115 F	Н	
02/13/91	1 hr @ -100 F	С	
02/13/91	15 hrs 0 118 F	Н	
02/14/91	1 hr @ -100 F	С	
02/14/91	2 hrs 0 590 F	0	
02/14/91	16 hrs @ 120 F	Н	
02/15/91	0.5 hrs 0 -40 F	С	
02/18/91	Test (Location 2)	A	50 PSI (85% C/I, 15% F)
02/19/91	STOP TESTING		dark oxide interface, very poor results
03/05/91	Coating completely removed with 3M sander stripper		
03/08/91	Backside rust cleaned off with HCL		

	MRC Fabr	ication/Cor	nditioning/Test Form 91-1	Page 1
Set-Sampl	e: 24 - 9401 Com	ments:	· .	1   2
Materials	: MARB 40 (Oct 30, 1	990) Sc	ubstrate: A-203-E	
Equip Def	initions:			
Date	Action	Equip	Results/Comments	
10/30/90	Acid cleaned		HCL to remove mill scale	
01/20/91	Gel cleaned		Corrosion inhibitor study	
01/24/91	Gel cleaned		5 minutes, rinsed, dried	
01/24/91	Coat		Spray coat right 33%	
01/24/91	Coat		Spray coat right 66%	
01/24/91		0	4 hrs air dry, 1 hr @ 450 F	slowly
	Hold at ambient		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
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MRC Fabrication/Cond	litioning/Test Form 91-1 Page 1				
Set-Sample: 24 - 9403 Comments:					
Materials: MARB 40 (Oct 30, 1990) Sub	ostrate: A-516-70				
Equip Definitions:					
Date Action Equip	Results/Comments				
10/30/90 Acid cleaned	HCL to remove mill scale				
01/20/91 Gel cleaned	Corrosion inhibitor study				
01/24/91 Gel cleaned	5 minutes, rinsed, dried				
01/24/91 Coat	Spray coat right 33%				
01/24/91 Coat	Spray coat right 66%				
01/24/91 Cure 0	4 hrs air dry, 1 hr @ 450 F slowly				
02/25/91 Hold at ambient Gave to CDM	for HB salt-spray environment testing				
	··				
	,				

	MRC Fat	orication/Co	nditioning/Test Form 91-1	Page 1							
Set-Sample: 24 - 9405 Comments:  Materials: MARB 40 (Oct 30, 1990) Substrate: A-285-C  Equip Definitions:											
							Date	Action	Equip	Results/Comments	ll
							10/30/90	Acid cleaned		HCL to remove mill scale	
01/20/91	Gel cleaned		Corrosion inhibitor study								
01/24/91	Gel cleaned		5 minutes, rinsed, dried								
01/24/91	Coat		Spray coat right 33%								
01/24/91	Coat		Spray coat right 66%								
01/24/91	Cure	0	4 hrs air dry, 1 hr 0 450 F								
	Hold at ambient			,							
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Page 1

Set-Sample: 24 - 9402 Comments:

Materials: MARB 40 (Oct 30, 1990) Substrate: A-203-E

Date	Action	Equip	Results/Comments
10/30/90	Acid cleaned		HCL to remove mill scale
01/20/91	Gel cleaned		Corrosion inhibitor study
01/24/91	Gel cleaned		5 minutes, rinsed, dried
01/24/91	Coat		Spray coat right 33%
01/24/91	Coat		Spray coat right 66%
01/24/91	Cure	0	4 hrs air dry, 1 hr @ 450 F slowly
01/30/91	1 hr 0 -110 F	С	•••••
01/30/91	41 hrs 0 115 F	Н	
02/01/91	1 hr 0 -110 F	С	autocycle
02/01/91	1 hr 0 600 F	C	autocycle
02/04/91	2.5 hrs @ 600 F	0	dry heat
02/04/91	42 hrs @ 115-150 F	Н	very humid
02/06/91	2.5 hrs @ 580 F	0	
02/07/91	3 hrs 0 590 F	0	·
02/08/91	1 hr 0 -100 F	C	•••••••••••••••••••••••••••••••••••••••
02/09/91	1 hr @ -100 F	C	
02/11/91	1 hr 0 -100 F	C	
02/11/91	2 hrs <b>0</b> 620 F	0	dry heat
02/11/91	16 hrs @ 115 F	Н	
02/12/91	1 hr @ -100 F	C	
02/12/91	2 hrs 0 600 F	0	

## MRC Fabrication/Conditioning/Test Form 91-1 Page 2 Set-Sample: 24 - 9402 Comments: Materials: MARB-40 Substrate: A203-E Equip Definitions: Date Action Equip Results/Comments 02/12/91 18 hrs 0 115 F H 02/13/91 1 hr 0 -100 F 02/13/91 15 hrs 0 118 F Н 02/14/91 1 hr 0 -100 F 02/14/91 2 hrs 0 590 F 0 02/14/91 16 hrs 0 120 F Н 02/15/91 0.5 hrs 0 -40 F C 02/18/91 Test (Location 1) Α 250 PSI (30% C; 70% C/I) 02/18/91 Test (Location 2) 100 PSI (50% C; 50% C/I) A STOP TESTING

Page 1

Set-Sample: 24 - 9404 Comments:

Materials: MARB 40 (Oct 30, 1990) Substrate: A-516-70

Substrate: A-516-70	3 5	6	
Results/Comments	 		

Date	Action	Equip	Results/Comments
10/30/90	Acid cleaned		HCL to remove mill scale
01/20/91	Gel cleaned		Corrosion inhibitor study
01/24/91	Gel cleaned		5 minutes, rinsed, dried
01/24/91	Coat		Spray coat right 33%
01/24/91	Coat		Spray coat right 66%
01/24/91	Cure	0	4 hrs air dry, 1 hr @ 450 F slowly
01/30/91	1 hr 0 -110 F	С	
01/30/91	41 hrs 0 115 F	Н	
02/01/91	1 hr 0 -110 F	С	autocycle
02/01/91	1 hr <b>0</b> 600 F	С	autocycle
02/04/91	2.5 hrs 0 600 F	0	dry heat
02/04/91	42 hrs 0 115-150 F	Н	very humid
02/06/91	2.5 hrs @ 580 F	0	
02/07/91	3 hrs 0 590 F	0	
02/08/91	1 hr 0 -100 F	С	
02/09/91	1 hr 0 -100 F	С	
02/11/91	1 hr 0 -100 F	С	
02/11/91	2 hrs 0 620 F	0	dry heat
02/11/91	16 hrs 0 115 F	Н	
02/12/91	1 hr 0 -100 F	С	
02/12/91	2 hrs 0 600 F	0	

Page 2

Set-Samp	le:	24	-	9404	Comments:
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Materials: MARB-40 Substrate: A516-70

1 3 5	2 6 4

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Date	Action	Equip	Results/Comments
02/12/91	18 hrs 0 115 F	Н	
02/13/91	1 hr 0 -100 F	С	
02/13/91	15 hrs @ 118 F	Н	
02/14/91	1 hr 0 -100 F	С	
02/14/91	2 hrs 0 590 F	0	
02/14/91	16 hrs @ 120 F	Н	
02/15/91	0.5 hrs 0 -40 F	С	
02/18/91	Test (Location 1)	A	150 PSI (50% C; 50% C/I)
02/18/91	Test (Location 2)	A	300 PSI (100% C, C/I)
02/22/91	2 hrs <b>8</b> 590 F	0	
02/22/91	19 hrs 0 115 F	Н	
02/25/91	2 hrs 0 600 F	0	
02/25/91	1 hr 0 -100 F	С	
02/27/91	1 hr 0 -100 F	С	
02/27/91	2 hrs 0 350 F	0	
02/28/91	1 hr 0 -100 F	С	
02/28/91	2 hrs 9 600 F	0	
02/28/91	18 hrs @ 115 F	н	
03/04/91	Test (Location 3)	A	620 PSI (60% C/I; 40% C) 1 coat rusting
03/04/91	Test (Location 4)	A	200 PSI (20% F; 80% C/I)
03/04/91	1 hr @ 487 F	0	••••••

Page 3

Set-Samp	le:	24	-	9404	Comments:
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Materials: MARB-40 Substra	:e: A516-70	)
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Date	Action	Equip	Result	s/Comments		'—	—	· I (	
03/04/91	1 hr 0 -100 F	С							
03/05/91	1 hr 0 -100 F	C							
03/05/91	1 hr 0 600 F	0	••••••	•					
03/05/91	16.5 hrs @ 116 F	Н		•					
03/08/91	1 hr @ -100 F	C	******						
03/08/91	2 hrs 0 600 F	0							
03/08/91	64 hrs @ 140 F	Н							
03/11/91	1 hr 0 -100 F	С							
03/11/91	2 hrs @ 600 F	0	*******		•••••	• • • • •			
03/11/91	17 hrs 0 115 F	Н							
03/12/91	1 hr 0 -100 F	С	********		••••				
03/12/91	1 hr 0 480 F	0							
03/12/91	16 hrs 0 115 F	Н	•						
03/14/91	Test (Location 5)	A	100 PSI	(90% C/I; 59	۷ C; 5	% F)	1	coat	
03/14/91	Test (Location 6)	Α	350 PSI	(50% dolly)	poor	test	, lo	w pres	sure
03/19/91	3 hrs 0 610 F	0							
*********			••••••	•					
					•••••				
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Page 1

Set-Sample: 24 - 9406 Comments:

Materials: MARB 40 (Oct 30, 1990) Substrate: A-285

Date	Action	Equip	Results/Comments
10/30/90	Acid cleaned		HCL to remove mill scale
01/20/91	Gel cleaned		Corrosion inhibitor study
01/24/91	Gel cleaned		5 minutes, rinsed, dried
01/24/91	Coat		Spray coat right 33%
01/24/91	Coat		Spray coat right 66%
01/24/91	Cure	0	4 hrs air dry, 1 hr @ 450 F slowly
01/30/91	1 hr 0 -110 F	C	
01/30/91	41 hrs 0 115 F	Н	
02/01/91	1 hr 0 -110 F	C	autocycle
02/01/91	1 hr 0 600 F	C	autocycle
02/04/91	2.5 hrs 0 600 F	0	dry heat
02/04/91	42 hrs @ 115-150 F	Н	very humid
02/06/91	2.5 hrs 0 580 F	0	•
02/07/91	3 hrs 0 590 F	0	•••••••••••••••••••••••••••••••••••••••
02/08/91	1 hr 0 -100 F	C	
02/09/91	1 hr 0 -100 F	С	•
02/11/91	1 hr 0 -100 F	C	•••••••••••••••••••••••••••••••••••••••
02/11/91	2 hrs @ 620 F	0	dry heat
02/11/91	16 hrs 0 115 F	Н	
02/12/91	1 hr 0 -100 F	C	
02/12/91	2 hrs 0 600 F	0	

# MRC Fabrication/Conditioning/Test Form 91-1 Page 2 Set-Sample: 24 - 9406 Comments: 2 Materials: MARB-40 Substrate: A285 Equip Definitions: Equip Results/Comments Date Action 02/12/91 18 hrs @ 115 F Н 02/13/91 1 hr 0 -100 F 02/13/91 15 hrs @ 118 F 02/14/91 1 hr 0 -100 F 02/14/91 2 hrs 0 590 F 0 16 hrs @ 120 ° 02/14/91 02/15/91 0.5 hrs & -40 F 02/18/91 Test (Location 1) 100 PSI (95% C/I; 5% C) 02/18/91 rest (Location 2) Α 150 PSI (48% C; 50% C/I;2% F) STOP TESTING

Set-Sample: 25A - 9507 Comments:

Materials: Silicone Release DC-1-2531

		5 2 6
as is	3	1

Date	Action	Equip	Results/Comments
01/31/91	Acid cleaned		HCL both sides
01/31/91	Gel cleaned		
02/08/91	Gel cleaned		
02/08/91	Coat		Brush coat top half
02/08/91	Coat		Brush coat left half (top right 2 coats)
02/08/91	Cure	0	air dry, 1 hr 0 400 F
02/11/91	16 hrs 0 115 F	Н	
02/12/91	1 hr 0 -100 F	C	
02/12/91	2 hrs 8 600 F	0	
02/12/91	18 hrs 0 115 F	Н	
02/13/91	l hr 0 -100 F	С	
02/13/91	15 hrs 0 118 F	Н	
02/14/91	1 hr 8 -100 F	С	
02/14/91	2 hrs <b>8</b> 590 F	0	
02/14/91	16 hrs 0 120 F	Н	
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 1)	Α	>1000 PSI (1 coat - no failure)
02/18/91	Test (Location 2)	A	1000 PSI (2 coats - 90% C, 9% F, 1% dolly)
02/22/91	2 hrs @ 590 F	0	·
02/22/91	19 hrs 0 115 F	Н	
02/25/91	2 hrs 0 600 F	0	

Set-Sample: 25A - 9507 Comments:

Materials: Silicone Release Resin

Date	Action	Equip	Results/Comments
02/25/91	1 hr @ -100 F	С	
02/27/91	1 hr 0 -108 F	С	
02/27/91	2 hrs @ 350 F	0	
02/28/91	1 hr 0 -100 F	С	
02/28/91	2 hrs @ 600 F	0	
02/28/91	18 hrs @ 115 F	Н	
03/04/91	Test (Location 3)	A	>1000 PSI But looks rusty underneath
03/04/91	1 hr @ 487 F	0	
03/04/91	1 hr 0 -100 F	С	
03/05/91	1 hr @ -100 F	С	
03/05/91	1 hr @ 600 F	0	
03/05/91	16.5 hrs @ 116 F	Н	
03/08/91	1 hr 0 -100 F	С	cold auto
03/08/91	2 hrs 0 600 F	0	•••••
03/08/91	64 hrs 0 140 F	Н	
03/11/91	1 hr 0 -100 F	С	
03/11/91	2 hrs 0 600 F	0	
03/11/91	17 hrs @ 115 F	Н	
03/12/91	1 hr 0 -100 F	С	•
03/12/91	1 hr 0 487 F	0	
03/12/91	16 hrs @ 115 F	Н	

MRC Fabrication/Conditioning/Test Form 91-1							Page 3		
Set-Sample	e: 25A - 9507	Comments: S	ilicone Re	lease					
03/14/91	Test (Location	4) A	1000	PSI	(60%	F;	40%	dolly)	l coat
03/14/91	Test (Location	5) A	>1000	PSI					2 coats
03/19/91	3 hrs @ 610 F	0							
03/19/91	17 hrs 0 116 F	Н							
03/20/91	3 hrs 0 650 F	0	~ * * * * * * * * * * * * *						
03/20/91	1 hr 0 -100 F	С							
03/20/91	16 hrs 0 140 F	Н							
03/21/91	1 hr 0 -100 F	С							
03/21/91	1 hr 0 640 F	0							
03/21/91	16 hrs @ 140 F	Н							
03/22/91	1 hr @ -100 F	C							
03/22/91	1 hr @ 640 F	0							
03/22/91	1 hr 0 -100 F	С							
03/22/91	43 hrs 0 115 F	Н							
03/24/91	1 hr @ -100 F	C	46 ev	ents	(350 )	hour	rs)		
03/28/91	Test (Location	6) A	650 P	SI (	50% C,	/I;	50%	F /doll	у)
	STOP TESTING -	100% Rustin	g Add Zin	c or	Alumi	num	in !	9508 pai	nt
						- <b></b> -			

Page 1

## MRC Fabrication/Conditioning/Test Form 91-1

	HAC FED	1 10001011/00	Sudictioning/lest Folm 31-1	Lage 1
Set-Sample	: 25A -9508	Comments:		
Materials:	A516-70 panel Silicone Release	As is Aluminum	filled	1 3
Equip Defi	nitions:	A T Cas T T Cas	· · · · · · · · · · · · · · · · · · ·	2 4
Date	Action	Equip	Results/Comments	
03/14/91		• • • • • • • • • • •		******
			• • • • • • • • • • • • • • • • • • • •	
			***********	•••••
03/19/91	3 hrs 0 610 F	0	***************************************	
03/19/91	17 hrs @ 116 F	Н	***************************************	
03/20/91	3 hrs @ 650 F	0	. • • • • • • • • • • • • • • • • • • •	
03/20/91	1 hr 0 -100 F	C		
03/20/91	16 hrs @ 140 F	Н		
03/21/91	1 hr @ -100 F	C	***************************************	
03/21/91	1 hr @ 640 F	0	,	
03/21/91	16 hrs 0 140 F	Н	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
03/22/91	1 hr @ -100 F	C	AM	
03/22/91	1 hr 0 640 F	0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
03/22/91	1 hr 0 -100 F	C	PM	
03/22/91	43 hrs @ 115 F	Н		********
03/24/91	1 hr 0 -100 F	C		
03/25/91	1 hr 0 -100 F	C	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	****************
03/25/91	17 hrs @ 140 F	Н	***************************************	
03/25/91	1 hr 0 0 F	C	v = = = = = = = = = = = = = = = = = = =	***************************************
03/26/91	1 hr 0 700 F	0	Very hot	

03/27/91 2 hrs 0 650 F 0

Page 2

Set-Sample	: 25A - 950	80	Comments:	S	ilicone	Releas	e wit	:h a :h a	alumi zinc	inum (gr	ey)/	per low	er	
03/27/91	1 hr 0 -10	00 F		C										
03/28/91	1 hr 0 -10	00 F		C										
03/28/91	2 hrs 0 6!	50 F		0										
03/29/91	Test (Loca	ation	1)	A	800	PSI	(50%	C,	15%	Α,	20% F	;)	0.5	ils
03/29/91	Test (Loca	ation	2)	A	600	PSI	(80%	C/1	, 20	1 %	F)	(	).55 n	nils
03/29/91	20 hrs 0	120 F		H										
03/30/91	1 hr 0 -10	00 F		C										
03/30/91	44 hrs 0	118 F	· .	H										
04/01/91	1 hr 0 -10	00 F		C										
04/01/91	2 hrs 0 6	50 F		0										
04/01/91	20 hrs 0	120 F		H										
04/02/91	1 hr 0 -10	00 F		C										
04/02/91	17 hrs 0	120 F		H										
04/03/91	1 hr 0 -10	00 F		C										
04/03/91	17 hrs 0	120 F		H										
04/04/91	1 hr 0 -1	50 F		C										
04/04/91	2 hrs 0 6	50 F		0										
04/04/91	20 hrs 0	120 F		Н										
04/05/91	1 hr 0 -10	00 F		C								•		
04/05/91	1 hr <b>0</b> 650	0 F	•	0						••••				••••
04/06/91	Test (Loca	ation	3)	A	>100	O PSI				••••			•••••	
04/06/91	Test (Loca	ation	4)	A	550	PSI (9	0% C;	10	% F)	)				
04/08/91	2 hrs 0 6	50 F		0										
04/08/91	1 hr 0 -10	00 F		c										

Set-Sample	: 25A -	<b>9508</b> .	Comments:	Silicone	Release	with with	aluminum / upper zinc (grey)/ lower
04/08/91	40 hrs	0 120 F		H			
04/10/91	1 hr 0	-100 F		C			
04/10/91	2 hrs	0 650 F		0			
04/11/91	4 hrs	0 650 F		0			
04/11/91	14 hrs	9 150 F		Н			
04/12/91	1 hr 0	-100 F		C	••••••		
04/12/91	65 hrs	0 120 F		H			
04/15/91	1 hr 0	-100 F	,	C			
04/15/91	40 hrs	0 115 F		H			
04/17/91	1 hr 0	-100 F		C			
04/17/91	1 hr 0	-100 F		C			
04/17/91	2 hrs	0 650 F		0			
04/17/91	14 hrs	0 115 F		Н			
04/18/91	1 hr 0	-100 F		C			
Stopped ev	ents						
				*****			***************************************
	~ - * *						
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MRC Fabrication/Conditioning/Test Form 91-1 Page 1						
Set-Sample: 25 - 15 panels Comments: 9510-9524						
Materials: Corrosion Inhibitor variation						
Equip Definitions:						
Date Action Equip Results/Comments						
02/10/91 Clean All panels HCL cleaned of mill scale						
02/20/91 Clean Gel (0291) clean 15 minutes						
02/20/91 Rinse Tap water, do not dry						
02/20/91 Rinse Corrosion inhibitor final rinse, hang	. <b></b>					
02/21/91 Report Observations on Test plan sheet						
02/21/91 Select - 9510; 9511; 9512; 9514; 9517; 9518; 9520; 9521; & 9522						
02/21/91 Reject -						
9513 SH3 Sharp 1 to 300 Blast Rust, film, discoloration						
9515 N2 K ₂ Cr ₂ O ₇ 1 to 1 (1/2) "						
9516 H1 HN-(C ₂ H ₅ OH) ₂ 1 to 0 Normal "						
9519 E2 MaNO ₃ Ed's 1 to 20 Normal "						
9523 B3 NaNO ₃ Brulin 1 to 30 (1/2) "						
9524 B4 NaNO ₃ Brulin 1 to 3.5 (4X) "						
02/21/91 Coat selected panels - See individual sheets.						
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Page 1

Set-Sample: 25 - 9510 Comments: Control S4

Materials: MARB 4 (on cleaned, force air dried A516-70)

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Date	Action	Equip Results/Comments
02/10/91	Clean	Panel HCL cleaned of mill scale
02/20/91	Clean	Gel (0291) clean 15 minutes
02/20/91	Rinse	Tap water, do not dry
02/20/91	Rinse	Tap water, force air dry, hang on hook
02/21/91	Report	Observations on Test plan sheet - No rusting
02/21/91	Coat	Spray three coats MARB 4
02/21/91	1 hr @ 480 F	0 Cure
02/22/91	2 hrs 0 590 F	O dry heat
02/22/91	19 hrs 0 115 F	H humid
02/25/91	2 hrs 0 600 F	O dry heat
02/25/91	1 hr 0 -100 F	C auto
02/26/91	Test (Location 1)	A >1000 PSI
02/27/91	1 hr @ -100 F	C auto
02/27/91	2 hrs 0 350 F	0 dry
02/28/91	1 hr 0 -100 F	C auto
02/28/91	2 hrs @ 600 F	0 dry, hot
02/28/91	18 hrs 0 115 F	Н
03/04/91	Test (Location 2)	A 1000 PSI (100% C)
03/04/91	1 hr 0 487 F	0
03/04/91	1 hr 0 -100 F	С
03/05/91	1 hr 0 -100 F	С
		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

	MRC	Fabrication/Co	onditioning/T	est Form 91-1	Page 2
Set-Sample	: 25 - 9510	Comments: S-4	ŀ		
03/05/91	1 hr 0 600 F	0		********	
03/05/91	16.5 hrs 0 116	F H			
03/08/91	1 hr 8 -100 F	C		****	~~~~
03/08/91	2 hrs 0 600 F	0			
03/08/91	64 hrs 0 140 F	Н		~	
03/11/91	1 hr 0 -100 F	С			
03/11/91	2 hrs 0 600 F	0			
03/11/91	17 hrs 0 115 F	Н			
03/12/91	1 hr 0 -100 F	C			
03/12/91	1 hr 0 487 F	0	•	*******	
03/12/91	16 hrs 0 115 F	Н			
03/13/91	1 hr 0 -100 F	C			
03/13/91	2 hrs 0 600 F	0			
03/13/91	16 hrs @ 140 F	Н			
03/14/91	1 hr 9 -100 F	C		**********	
03/14/91	1 hr 0 525 F	С	· · · · ·	**********	
03/15/91	Test (Location	3) A	300 PSI (100% C)	
03/19/91	3 hrs 0 610 F	0			
03/19/91	17 hrs @ 116 F	Н			
03/20/91	3 hrs 0 650 F	0			
03/20/91	1 hr 0 -100 F	С			
03/20/91	16 hrs 0 140 F	Н			,
03/21/91	1 hr 0 -100 F	C			
03/21/91	1 hr 0 640 F	0			***************************************
				•••	

		MRC	Fabrication/Co	nditioning/T	est Form	91-1	Page 3
Set-Sample	: 25 -	9510	Comments: S4				
03/21/91	16 hrs	0 140 F	н			•	
03/22/91	1 hr 0	-100 F	C				
03/22/91	1 hr 0	640 F	0				
03/22/91	1 hr 0	-100 F	С				
03/22/91	43 hrs	0 115 F	Н				
03/24/91	1 hr 0	-100 F	С				
03/25/91	l hr 8	-100 F	С				
03/25/91	17 hrs	0 140 F	Н				
03/28/91	Test (Location	4) A	300 PSI (
********	STOP T	ESTING	***********				
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Page 1

Set-Sample: 25 - 9511 Comments: SH1

Materials: MARB 4 over Sharp Rust Inhibitor

5	0 3
2	1

Date	Action	Equip	Results/Comments
02/10/91	Clean	Panel HCL	cleaned of mill scale
02/20/91	Clean	Gel (0291) clean 15 minutes
02/20/91	Rinse	Tap water	, do not dry
02/20/91	Rinse	Corrosion	inhibitor final rinse, hang
02/21/91	Report	Observati	ons on Test plan sheet
02/21/91	Coat	Spray thr	ee coats MARB 4
02/21/91	1 hr 0 480 F	0 0	ure
02/22/91	2 hrs 0 590 F	0 d	ry heat
02/22/91	19 hrs 0 115 F	H h	umid
02/25/91	2 hrs 0 600 F	0 d	ry heat
02/25/91	1 hr 0 -100 F	C a	uto
02/26/91	Test (Location 1)	Α >	1000 PSI
02/27/91	Test (Location 2)	A >	1000 PSI
02/27/91	1 hr 0 -100 F	C a	uto
02/27/91	2 hrs 0 350 F	0 d	ry
02/28/91	1 hr 0 -100 F	C a	uto
02/28/91	2 hrs 0 600 F	0 d	ry, hot
02/28/91	18 hrs 0 115 F	Н	
03/04/91	Test (Location 3)	A 9	00 PSI (100% C)
03/04/91	1 hr 0 487 F	0	
03/04/91	1 hr ● -100 F	C	

	MRC Fa	abrication/Co	nditioning	Test Form	91-1	Page 2
Set-Sample	e: 25 - 9511 (Comments: SH-	1			
03/05/91	1 hr 0 -100 F	С				
03/05/91	1 hr 0 600 F	0				
03/05/91	16.5 hrs @ 116	F H				
03/08/91	1 hr @ -100 F	С				
03/08/91	2 hrs @ 600 F	0				
03/08/91	64 hrs 0 140 F	Н				
03/11/91	1 hr 0 -100 F	С				
03/11/91	2 hrs 0 600 F	0-				
03/11/91	17 hrs 0 115 F	Н				
03/12/91	1 hr 0 -100 F	С				
03/12/91	1 hr 0 487 F	0				
03/12/91	16 hrs 0 115 F	Н				
03/13/91	1 hr 0 -100 F	С				
03/13/91	2 hrs 0 600 F	0				
03/13/91	16 hrs 0 140 F	H				
03/14/91	1 hr 0 -100 F	С				
03/14/91	1 hr 0 525 F	С				
03/15/91	Test (Location 4	4) A	800 PSI	(100% C)		
03/19/91	3 hrs 0 610 F	0				
03/19/91	17 hrs @ 116 F	Н				
03/20/91	3 hrs 0 650 F	0				
03/20/91	1 hr 0 -100 F	С				
03/20/91	16 hrs @ 140 F	Н				
03/21/91	1 hr 0 -100 F	С				
03/21/91	1 hr 0 640 F	0				

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Set-Sample	: 25 -	9511	Comments: SH	-1					
03/21/91	16 hrs	@ 140 F	Н					 	
03/22/91	1 hr @	-100 F	C					 	
03/22/91	1 hr 0	640 F	0					 	• • • • • • •
03/22/91	1 hr 0	-100 F	C					 	
03/22/91	43 hrs	0 115 F	Н					 	
03/24/91	1 hr 0	-100 F	C					 	
03/25/91	1 hr @	-100 F	C					 	
03/25/91	17 hrs	0 140 F	Н					 	
03/28/91	Test (Location	5) A	250	PSI	(100%	C)	 	
	STOP T	ESTING						 	
********						*****		 	
******				*****				 	
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Page 1

Set-Sample: 25 - 9512 Comments: SH2

Materials: MARB 4 over Sharp Rust Inhibitor (normal: 1 to 30)

2	0	3 1
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Date	Action	Equip Results/Comments
02/10/91	Clean	Panel HCL cleaned of mill scale
02/20/91	Clean	Gel (0291) clean 15 minutes
02/20/91	Rinse	Tap water, do not dry
02/20/91	Rinse	Corrosion inhibitor final rinse, hang
02/21/91	Report	Observations on Test plan sheet
02/21/91	Coat	Spray three coats MARB 4
02/21/91	1 hr @ 480 F	0 Cure
02/22/91	2 hrs 0 590 F	0 dry heat
02/22/91	19 hrs @ 115 F	H humid
02/25/91	2 hrs @ 600 F	O dry heat
02/25/91	1 hr @ -100 F	C auto
02/26/91	Test (Location 1)	A 350 PSI (100% A - I) grey
02/27/91	Test (Location 2)	A 300 PSI (100% C/I) grey
	STOP TESTS cont	inue with new 9512 (old 9525)
03/13/91	16 hrs @ 140 F	Н
03/14/91	1 hr 0 -100 F	C
03/14/91	1 hr 0 525 F	C
03/15/91	Test (Location 1)	A 350 PSI (30% C; 20% A; 20% F; 30% dolly)
03/19/91	3 hrs 0 610 F	0
03/19/91	17 hrs @ 116 F	Н
03/20/91	3 hrs 0 650 F	0

# MRC Fabrication/Conditioning/Test Form 91-1 Page 2 Set-Sample: 25 - 9512 Comments: SH2 Materials: MARB 4 over Sharp Rust Inhibitor (normal: 1 to 30) 2 1 Equip Definitions: Date Action Equip Results/Comments 03/20/91 1 hr @ -100 F 03/20/91 16 hrs 0 140 F H 03/21/91 1 hr @ -100 F C 03/21/91 1 hr 0 640 F 03/21/91 16 hrs @ 140 F H 03/22/91 1 hr 0 -100 F C 03/22/91 1 hr @ 640 F 03/22/91 1 hr @ -100 F C 03/22/91 43 hrs 0 115 F H humid 03/24/91 1 hr @ -100 F 03/25/91 1 hr @ -100 F 03/26/91 Test (Location 2) A 300 PSI (100% C - C/I and rust) STOP TESTING

Set-Sample: 26 -9602	Comments:	Page 2
03/22/91 1 hr 0 640 F	0	
03/22/91 1 hr 0 -100 F	С	PM
03/22/91 43 hrs @ 115 F	Н	
03/24/91 1 hr 0 -100 F	С	
03/25/91 1 hr @ -100 F	С	
03/25/91 17 hrs @ 140 F	Н	very humid
03/26/91 1 hr 0 0 F	С	
03/26/91 1 hr @ 700 F	0	very hot
03/27/91 2 hrs @ 650 F	0	
03/27/91 1 hr 0 -100 F	С	
03/28/91 1 hr @ -100 F	С	
03/28/91 2 hrs @ 650 F	0	50% coating discoloration
03/29/91 Test (Location 3b)	A	500 PSI (100% C) 1.2 mils
03/29/91 Test (Location 4)	A	300 PSI (100% C/I, C) 1.0 mils
03/29/91 20 hrs @ 120 F	Н	
03/30/91 1 hr @ -100 F	С	
03/30/91 44 hrs @ 118 F	Н	
04/01/91 1 hr @ -100 F	С	
04/01/91 2 hrs @ 650 F	0	
04/01/91 20 hrs @ 120 F	Н	
04/02/91 1 hr @ -100 F	С	
04/02/91 17 hrs @ 120 F	Н	1271.0 g
04/03/91 1 hr @ -100 F	С	
04/03/91 17 hrs @ 120 F	Н	
04/04/91 1 hr 0 -150 F	С	Manual 15 to 8% N ₂
04/04/91 2 hrs @ 650 F	0	

Set-Sample: 26 - 9602 Comments:

Materials: Sherwin Williams B59S8 Alkyd Silicone

	-	1	6b
2			4
			7
			5
			3b

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	*	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
03/12/91	1 hr @ 480 F	0	Bake 1271.05 g
03/12/91	16 hrs @ 115 F	Н	Humid
03/13/91	1 hr @ -100 F	С	auto cold
03/13/91	2 hrs @ 600 F	0	hot, dry
03/13/91	16 hrs @ 140 F	Н	Humid
03/14/91	1 hr @ -100 F	С	auto
03/14/91	1 hr @ 525 F	С	hot, dry
03/15/91	Test (Location 1)	Α	200 PSI (90% A; 10% C)
03/19/91	Test (Location 2)	Α	1000 PSI (35% C; 65% C/I/A)
03/19/91	3 hrs @ 610 F	0	1270.8 g
03/19/91	17 hrs @ 116 F	Н	
03/20/91	3 hrs @ 650 F	0	
03/20/91	1 hr @ -100 F	С	
03/20/91	16 hrs @ 140 F	Н	
03/21/91	1 hr @ -100 F	С	
03/21/91	1 hr 0 640 F	0	
03/21/91	16 hrs @ 140 F	Н	
03/22/91	1 hr 0 -100 F	С	AM

Page 1

Set-Sample: 25 - 9514 Comments: N1

Materials: MARB 4 over Potassium Chromate (K₂Cr₂O₇)

5	0	3
2		1

Date	Action	Equip Results/Comments
02/10/91	Clean	Panel HCL cleaned of mill scale
02/20/91	Clean	Gel (0291) clean 15 minutes
02/20/91	Rinse	Tap water, do not dry
02/20/91	Rinse	Corrosion inhibitor final rinse, hang
02/21/91	Report	Observations on Test plan sheet
02/21/91	Coat	Spray three coats MARB 4
02/21/91	1 hr @ 480 F	0 Cure
02/22/91	2 hrs @ 590 F	0 dry heat
02/22/91	19 hrs @ 115 F	H humid
02/25/91	2 hrs @ 600 F	O dry heat
02/25/91	l hr @ -100 F	C auto
02/26/91	Test (Location 1)	A 975 PSI (100% C)
02/27/91	Test (Location 2)	A 550 PSI (100% C)
02/27/91	1 hr @ -100 F	C auto
02/27/91	2 hrs @ 350 F	0 dry
02/28/91	l hr @ -100 F	C auto
02/28/91	2 hrs @ 600 F	0 dry, hot
02/28/91	18 hrs @ 115 F	Н
03/04/91	Test (Location '3)	A 300 PSI (100% C) spotty
03/04/91	1 hr 0 487 F	0
03/04/91	1 hr 0 -100 F	C
~~~~~		

MRC F	abrication/Condition	ning/Test Form 91-1	Page 2
Set-Sample: 25 - 9514	Comments: N1		
03/05/91 1 hr @ -100 F	С	******************	
03/05/91 1 hr 0 600 F	0	*****************	
03/05/91 16.5 hrs @ 116	F H		
03/08/91 1 hr @ -100 F	С		
03/08/91 2 hrs 0 600 F	0		
03/08/91 64 hrs @ 140 F	Н		
03/11/91 1 hr @ -100 F	С		
03/11/91 2 hrs 0 600 F	0		
03/11/91 17 hrs @ 115 F	Н		
03/12/91 1 hr 0 -100 F	С		
03/12/91 1 hr @ 487 F	0		
03/12/91 16 hrs @ 115 F	Н		
03/13/91 1 hr @ -100 F	С		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
03/13/91 2 hrs 0 600 F	0		
03/13/91 16 hrs @ 140 F	Н		
03/14/91 1 hr 0 -100 F	С		
03/14/91 1 hr @ 525 F	С	_	
03/15/91 Test (Location	4) A 500	PSI (95% C; 5% F)	
03/19/91 3 hrs 0 610 F	0		
03/19/91 17 hrs @ 116 F	Н		
03/20/91 3 hrs 0 650 F	0		
03/20/91 1 hr @ -100 F	С		
03/20/91 16 hrs @ 140 F	Н		
03/21/91 1 hr 0 -100 F	. С		
03/21/91 1 hr 0 640 F	0		

MRC Fabrication	on/Conditioning/Test Form 91-1 Page 3
Set-Sample: 25 - 9514 Comments	: N1
03/21/91 16 hrs 0 140 F	Н
03/22/91 1 hr @ -100 F	С
03/22/91 1 hr @ 640 F	0
03/22/91 1 hr @ -100 F	С
03/22/91 43 hrs @ 115 F	Н
03/24/91 1 hr @ -100 F	С
03/25/91 1 hr @ -100 F	С
03/25/91 17 hrs 0 140 F	н
03/28/91 Test (Location 5)	A 150 PSI (100 % C)
STOP TESTING	

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Set-Sample: 25 - 9517 Comments: H2

Materials: MARB 4 over HN- (C2H5OH)2

Equip Definitions:

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2	1

Page 1

02/10/91 C1e 02/20/91 C1e 02/20/91 Rin			L cleaned of mill scale
	an	0-1 /604	
02/20/91 Rir		ue! (U29)1) clean 15 minutes
	ıse	Tap wate	er, do not dry
02/20/91 Rin	ise	Corrosio	n inhibitor final rinse, hang
02/21/91 Rep	ort	Observat	ions on Test plan sheet
02/21/91 Coa	it	Spray th	ree coats MARB 4
02/21/91 1 h	ır 0 480 F	0	Cure
02/22/91 2 h	nrs @ 590 F	0	dry heat
02/22/91 19	hrs @ 115 F	Н	humid
02/25/91 2 h	rs 0 600 F	0	dry heat
02/25/91 1 h	nr 0 -100 F	С	auto
02/26/91 Tes	st (Location 1)	Α	>1000 PSI
02/27/91 Tes	st (Location 2)	Α	>1000 PSI
02/27/91 1 h	nr 9 -100 F	С	auto
02/27/91 2 H	nrs 0 350 F	0	dry
02/28/91 1 1	ır 0 -100 F	С	auto
02/28/91 2 H	nrs 0 600 F	0	dry, hot
02/28/91 18	hrs 0 115 F	Н	
03/04/91 Tes	st (Location 3)	Α	>1000 PSI
03/04/91 1 1	nr 0 487 F	0	
03/04/91 1 1	ır 0 -100 F	С	

	MRC Fabric	cation/Con	ditioning/Test Form 91-1	Page 2
Set-Sample	: 25 - 9517 Comm	ents: H-2		
03/05/91	1 hr @ -100 F	С		
03/05/91	1 hr @ 600 F	0		
03/05/91	16.5 hrs 0 116 F	Н		
03/08/91	1 hr @ -100 F	C		
03/08/91	2 hrs 0 600 F	0		
03/08/91	64 hrs 0 140 F	Н		************
03/11/91	1 hr @ -100 F	C	auto	
03/11/91	2 hrs @ 600 F	0	***************************************	
03/11/91	17 hrs 0 115 F	Н	′	
03/12/91	1 hr 0 -100 F	C		
03/12/91	1 hr @ 487 F	0		
03/12/91	16 hrs @ 115 F	Н		
03/13/91	1 hr 0 -100 F	C		
03/13/91	2 hrs @ 600 F	0		
03/13/91	16 hrs @ 140 F	Н		********
03/14/91	1 hr @ -100 F	C	,	
03/14/91	1 hr @ 525 F	C	***************************************	*************
03/15/91	Test (Location 4)	Α	300 PSI (50% C; 50% F)	
03/19/91	3 hrs @ 610 F	0		
03/19/91	17 hrs @ 116 F	H		
03/20/91	3 hrs @ 650 F	0		
03/20/91	1 hr @ -100 F	С		
03/20/91	16 hrs @ 140 F	Н		
03/21/91	1 hr 0 -100 F	C		
03/21/91	1 hr @ 640 F	0		******

		MRC	Fabricatio	n/Condit	ioning/Te	st Form	91-1	Page 3
Set-Sample	: 25 -	9517	Comments:	H2				
03/21/91	16 hrs	0 140 F		H	*****			
03/22/91	I hr 0	-100 F		C				
03/22/91	1 hr 0	640 F		0				
03/22/91	1 hr 0	-100 F		C				
03/22/91	43 hrs	0 115 F	*	H				
03/24/91	1 hr 0	-100 F		C				
03/25/91	1 hr 0	-100 F		C				
03/25/91	17 hrs	0 140 F		 Н				
03/28/91	Test (L	ocation	5)	300 PSI	(100% C)			

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Page 1

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Equip De	efinitions:			2	1
Materia	ls: MARB 4 over So	odium Nitrite (1	/2 Ed's formulation	MB)	_

Date	Action	Equip Results/Comments
02/10/91	Clean	Panel HCL cleaned of mill scale
02/20/91	Clean	Gel (0291) clean 15 minutes
02/20/91	Rinse	Tap water, do not dry
02/20/91	Rinse	Corrosion inhibitor final rinse, hang
02/21/91	Report	Observations on Test plan sheet
02/21/91	Coat	Spray three coats MARB 4
02/21/91	1 hr @ 480 F	O Cure
02/22/91	2 hrs @ 590 F	O dry heat
02/22/91	19 hrs 0 115 F	H husaid
02/25/91	2 hrs 0 600 F	O dry heat
02/25/91	1 hr @ -100 F	C auto
02/26/91	Test (Location 1)	A 400 PSI (100% A)
02/27/91	Test (Location 2)	A 150 PSI (90% C/I; 10% C)
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MRC Fabrication/Conditioning/Test Form 91-1 Page 1 Set-Sample: 25 - 9520 Comments: E4 Materials: MARB 4 over Sodium Nitrite (Ed's Formulation MB) 1 Equip Definitions: Action Results/Comments Equip 02/10/91 Clean Panel HCL cleaned of mill scale 02/20/91 Clean Gel (0291) clean 15 minutes 02/20/91 Rinse Tap water, do not dry Corrosion inhibitor final rinse, hang 02/20/91 Rinse 02/21/91 Report Observations on Test plan sheet 02/21/91 Coat Spray three coats MARB 4 02/21/91 1 hr @ 480 F 0 Cure 02/22/91 2 hrs @ 590 F O dry heat 02/22/91 19 hrs @ 115 F H humid 02/25/91 2 hrs @ 600 F 0 dry heat 02/25/91 1 hr 0 -100 F C auto 02/26/91 Test (Location 1) A 250 PSI (100% A-I) grey STOP TESTING

MRC Fabrication/Conditioning/Test Form 91-1 Page 1 Set-Sample: 25 - 9521 Comments: B1 Materials: MARB 4 over Sodium Nitrite (Brulin's) 1 Equip Definitions: Date Action Equip Results/Comments 02/10/91 Clean Panel HCL cleaned of mill scale 02/20/91 Clean Gel (0291) clean 15 minutes 02/20/91 Rinse Tap water, do not dry 02/20/91 Rinse Corrosion inhibitor final rinse, hang 02/21/91 Report Observations on Test plan sheet 02/21/91 Coat Spray three coats MARB 4 02/21/91 1 hr @ 480 F ٥ Cure 02/22/91 02/22/91 19 hrs 0 115 F H humid 02/25/91 2 hrs 0 600 F 0 dry heat 02/25/91 1 hr @ -100 F C auto 02/26/91 Test (Location 1) A 450 PSI (40% A; 50% C; 10% F) STOP TESTING

MRC Fabrication/Conditioning/Test Form 91-1 Page 1 Set-Sample: 25 - 9522 Comments: B2 Materials: MARB 4 over Sodium Nitrite (Brulin's) 1 Equip Definitions: Results/Comments Date Action Equip 02/10/91 Clean Panel HCL cleaned of mill scale 02/20/91 Clean Gel (0291) clean 15 minutes 02/20/91 Rinse Tap water, do not dry 02/20/91 Rinse Corrosion inhibitor final rinse, hang 02/21/91 Report Observations on Test plan sheet 02/21/91 Coat Spray three coats MARB 4 02/21/91 1 hr 0 480 F 0 Cure 02/22/91 2 hrs @ 590 F 0 dry heat 02/22/91 19 hrs @ 115 F H humid 02/25/91 2 hrs @ 600 F 0 dry heat 02/25/91 1 hr @ -100 F C auto 02/26/91 Test (Location 1) A 300 PSI (50% A; 50% C) rust, copper specks STOP TESTING

Page 1

Set-Sample: 25A - 9507 Comments:

Materials: Silicone Release DC-1-2531

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as is	3	_4_ 1
		- 1

Date	Action	Equip	Results/Comments
01/31/91	Acid cleaned		HCL both sides
01/31/91	Gel cleaned		
02/08/91	Gel cleaned		
02/08/91	Coat		Brush coat top half
02/08/91	Coat	******	Brush coat left half (top right 2 coats)
02/08/91	Cure	0	air dry, 1 hr @ 400 F
02/11/91	16 hrs @ 115 F	Н	
02/12/91	1 hr @ -100 F	С	
02/12/91	2 hrs 0 600 F	0	
02/12/91	18 hrs @ 115 F	Н	
02/13/91	1 hr @ -100 F	С	
02/13/91	15 hrs @ 118 F	Н	
02/14/91	1 hr @ -100 F	С	
02/14/91	2 hrs @ 590 F	0	
02/14/91	16 hrs 0 120 F	Н	
02/15/91	0.5 hrs 0 -40 F	С	
02/18/91	Test (Location 1)	A	>1000 PSI (1 coat - no failure)
02/18/91	Test (Location 2)	A	1000 PSI (2 coats - 90% C, 9% F, 1% dolly)
02/22/91	2 hrs 0 590 F	0	
02/22/91	19 hrs 0 115 F	Н	
02/25/91	2 hrs @ 600 F	0	

MRC Fabrication/Conditioning/Test Form 91-1 Page 1 Set-Sample: 25A - 9507 Comments: 2 Materials: Silicone Release Resin 6 Equip Definitions: 1 Date Action Results/Comments Equip 02/25/91 1 hr @ -100 F C 02/27/91 1 hr @ -108 F 02/27/91 2 hrs @ 350 F 02/28/91 1 hr @ -100 F 02/28/91 2 hrs @ 600 F 02/28/91 18 hrs @ 115 F 03/04/91 Test (Location 3) A >1000 PSI But looks rusty underneath 03/04/91 1 hr @ 487 F 03/04/91 1 hr 0 -100 F 03/05/91 1 hr 0 -100 F 03/05/91 1 hr @ 600 F 03/05/91 16.5 hrs @ 116 F H 03/08/91 1 hr @ -100 F C cold auto 03/08/91 2 hrs 0 600 F a 03/08/91 64 hrs @ 140 F Н 03/11/91 1 hr @ -100 F 03/11/91 2 hrs 0 600 F 03/11/91 17 hrs 0 115 F 03/12/91 1 hr @ -100 F 03/12/91 1 hr @ 487 F 0

03/12/91 16 hrs 0 115 F

MRC Fabrication/Conditioning/Test Form 91-1 Page 3 Set-Sample: 25A - 9507 Comments: Silicone Release 03/14/91 Test (Location 4) A 1000 PSI (60% F; 40% dolly) 1 coat 03/14/91 Test (Location 5) A >1000 PSI 03/19/91 3 hrs @ 610 F 03/19/91 17 hrs @ 116 F 03/20/91 3 hrs @ 650 F 0 03/20/91 1 hr @ -100 F C 03/20/91 16 hrs @ 140 F Н 03/21/91 1 hr @ -100 F C 03/21/91 1 hr @ 640 F 0 03/21/91 16 hrs @ 140 F Н 03/22/91 1 hr 0 -100 F С 03/22/91 I hr @ 640 F 0 03/22/91 1 hr @ -100 F 03/22/91 43 hrs @ 115 F Н 03/24/91 1 hr @ -100 F 46 events (350 hours) 03/28/91 Test (Location 6) A 650 PSI (50% C/I; 50% F /dolly) STOP TESTING - 100% Rusting Add Zinc or Aluminum in 9508 paint

	MKL Fab	rication/co	naitioning/lest	LOLD 31-1	rage
Set-Sample	e: 25A -9508	Comments:			
Matardal	A516-70 panel	A a		1	,,, <u>o</u>
	Silicone Release	As is Aluminum	filled	-	1 3
Equip Defi	nitions:			-	2 4
Date	Action	Equip	Results/Comm	ents	
03/14/91					,
*********			*****		
03/19/91	3 hrs @ 610 F	0			
03/19/91	17 hrs @ 116 F	Н			
03/20/91	3 hrs 0 650 F	0			
03/20/91	1 hr @ -100 F	С			
03/20/91	16 hrs @ 140 F	Н			
03/21/91	1 hr @ -100 F	С			
03/21/91	1 hr @ 640 F	0			
03/21/91	16 hrs @ 140 F	Н		• • • • • • • • • • • • • • • • • • • •	
03/22/91	1 hr 0 -100 F	С	AM		
03/22/91	1 hr 0 640 F	0			
03/22/91	1 hr @ -100 F	С	PM		
03/22/91	43 hrs 0 115 F	Н			
03/24/91	1 hr 0 -100 F	С			
03/25/91	1 hr 0 -100 F	С			
03/25/91	17 hrs @ 140 F	Н			
03/25/91	1 hr @ 0 F	C			
03/26/91	1 hr @ 700 F	0	Very hot		,
03/27/91	2 hrs 0 650 F	0		*****	,

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Set-Sample: 25A - 9508	Comments: Si	licone Rele	ease with alu with zin	minum / uppe c (grey)/ lo	
03/27/91 1 hr @ -100 F	С				
03/28/91 1 hr @ -100 F	С				
03/28/91 2 hrs @ 650 F	0				
03/29/91 Test (Locatio	n 1) A	800 PS	(50% C, 15	% A, 20% F)	0.5 mils
03/29/91 Test (Locatio	n 2) A	600 PS	(80% C/I,	20 % F)	0.55 mils
03/29/91 20 hrs 0 120	F H				
03/30/91 1 hr @ -100 F	С				
03/30/91 44 hrs @ 118	F H			******	
04/01/91 1 hr @ -100 F	С	***			
04/01/91 2 hrs @ 650 F	0				
04/01/91 20 hrs @ 120	F H				
04/02/91 1 hr @ -100 F	C				
04/02/91 17 hrs @ 120	F H	*****			
04/03/91 l hr @ -100 F	С				
04/03/91 17 hrs @ 120	F H	******			
04/04/91 1 hr @ -150 F	С				
04/04/91 2 hrs @ 650 F	0	******			
04/04/91 20 hrs @ 120	F H				
04/05/91 1 hr @ -100 F	С				
04/05/91 1 hr @ 650 F	0				
04/06/91 Test (Locatio	n 3) A	>1000 PS	SI		
04/06/91 Test (Locatio	n 4) A	550 PSI	(90% C; 10%	F)	*
04/08/91 2 hrs 0 650 F	0				
04/08/91 1 hr 0 -100 F	C		*********		

Set-Sample:	25A - 9508	Comments:	Silicone	Release	with with	aluminum / upper zinc (grey)/ lower
04/08/91	40 hrs @ 120 F		4	*******		
04/10/91	1 hr 0 -100 F	(
04/10/91	2 hrs 0 650 F	()			
04/11/91	4 hrs 0 650 F)			
04/11/91	14 hrs 0 150 F		Н			
04/12/91	1 hr 0 -100 F	(C			
04/12/91	65 hrs @ 120 F		1			
04/15/91	l hr 0 -100 F		C	• • • • • • • •		
04/15/91	40 hrs 0 115 F		H			
04/17/91	1 hr 0 -100 F	(C			
04/17/91	1 hr @ -100 F	(C	*****		
04/17/91	2 hrs @ 650 F	(0			
04/17/91	14 hrs @ 115 F		 Н			
04/18/91	1 hr 0 -100 F		C			
Stopped eve	ents					•••••••••

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				• • • • • • • • • • • • • • • • • • • •		

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MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9601 Comments:

A516-70 panel Materials: Sherwin Williams B59S3 Silicone paint

Equip	Definitions:
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	0	6b
2		3b
		4 5
		5

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
03/12/91	1 hr @ 480 F	0	Bake 1244.2 g
03/12/91	16 hrs @ 115 F	Н	Humid
03/13/91	1 hr @ -100 F	С	auto cold
03/13/91	2 hrs @ 600 F	0	hot, dry
03/13/91	16 hrs 0 140 F	Н	Humid
03/14/91	1 hr 0 -100 F	С	auto
03/14/91	1 hr @ 525 F	С	manual
03/15/91	Test (Location 1)	Α	550 PSI (100% dolly)
03/19/91	Test (Location 2)	A	>1000 PSI No Failure
03/19/91	3 hrs @ 610 F	0	hot, dry 1244.1. g
03/19/91	17 hrs 0 116 F	H	humid
03/20/91	3 hrs 0 650 F	0	hot, dry
03/20/91	1 hr @ -100 F	С	
03/20/91	16 hrs 0 140 F	Н	
03/21/91	1 hr 0 -100 F	С	
03/21/91	1 hr 0 640 F	0	
03/21/91	16 hrs 0 140 F	Н	
03/22/91	1 hr 0 -100 F	С	AM

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Set-Sample	e: 26	-9601	Comments:
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A516-70 pane	1
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Materials: Sherwin Williams B59S3 Silicone paint

	0	6b
2		1
		3b
		4
		5

Date	Action	Equip	Results/Comments
03/22/91	1 hr @ 640 F	0	
03/22/91	1 hr @ -100 F	С	PM
03/22/91	43 hrs @ 115 F	Н	
03/24/91	1 hr @ -100 F	С	
03/25/91	1 hr @ -100 F	С	
03/25/91	17 hrs @ 140 F	Н	very humid
03/26/91	1 hr @ 0 F	С	
03/26/91	1 hr @ 700 F	0	very hot
03/27/91	2 hrs 0 650 F	0 .	
03/27/91	1 hr @ -100 F	С	
03/28/91	1 hr @ -100 F	С	rusting where thin; flaking where thick
03/28/91	2 hrs 0 650 F .	0	very rusty, 85% coating failure
03/29/91	Test (Location 3b)	A	450 PSI (90% C, 5% F, 5% A) rust 0.8 mils
03/29/91	Test (Location 4)	A	400 PSI (100% C/I, C) 0.4 mils
03/29/91	20 hrs @ 120 F	Н	
03/30/91	1 hr @ -100 F	С	
03/30/91	44 hrs @ 118 F	Н	
04/01/91	1 hr @ -100 F	С	
04/01/91	2 hrs 0 650 F	0	
04/01/91	20 hrs @ 120 F	Н	
04/02/91	1 hr @ -100 F	С	

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	INO 1 CD1 1 C	201011/00110	reformly less form 31-1
Set-Sample	: 26 -9601 Co	uments:	
04/02/91	17 hrs 0 120 F	Н	1244.3 g
04/03/91	1 hr 0 -100 F	С	
04/03/91	17 hrs @ 120 F	Н	
04/04/91	1 hr 0 -150 F	C	Manual 15 to 8% N ₂
04/04/91	2 hrs @ 650 F	0	
04/04/91	20 hrs @ 120 F	Н	
04/05/91	1 hr @ -100 F	С	
04/05/91	1 hr @ 650 F	0	
04/06/91	Test (Location 5)	A	800 PSI (100% C) rust and oxide
04/08/91	2 hrs @ 650 F	0	
04/08/91	1 hr @ -100 F	С	
04/08/91	40 hrs @ 120 F	Н	
04/10/91	1 hr @ -100 F	С	
04/10/91	2 hrs @ 650 F	0	
04/11/91	4 hrs @ 650 F	0	
04/11/91	14 hrs @ 150 F	Н	
04/12/91	1 hrs @ -100 F	С	
04/12/91	65 hrs @ 120 F	Н	
04/15/91	1 hr @ -100 F	C	95% visual failure
04/17/91	Test (Location 6b)	Α	800 PSI (80% C/I; 20% C-10% rust)
	STOP TESTING /REPORT	GENERATED	1244.5g 52 events (-150 to 700°F)
Do not continue testing 05/06/91		1	0.3g wt gain

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9602	Comments:	Page 3
04/04/91 20 hrs @ 120 F	Н	
04/05/91 1 hr @ -100 F	С	
04/05/91 1 hr @ 650 F	0	
04/06/91 Test (Location 5)	A	900 PSI (100% C) mostly clean
04/08/91 2 hrs @ 650 F	0	
04/08/91 1 hr @ -100 F	С	
04/08/91 40 hrs @ 120 F	Н	
04/10/91 1 hr @ -100 F	С	
04/10/91 2 hrs @ 650 F	0	
04/11/91 4 hrs 0 650 F	0	
04/11/91 14 hrs @ 150 F	Н	
04/12/91 1 hrs @ -100 F	С	
04/12/91 65 hrs @ 120 F	H·	
04/15/91 1 hr @ -100 F	С	25% visual failure
04/17/91 Test (Location 6)	Α	700 PSI (90% C; 10% F)
STOP TESTING /REPO	ORT GENERATE	D 1271.0 g 52 events (-150 to 700oF)
Continue Testing to 90% fails	ıre	0.05 g wt loss
05/06/91 17 hrs 0 120 F	Н	
05/07/91 12 hr @ -100 F	С	
05/07/91 3 hrs @ 650 F	0	
05/07/91 15 hrs @ 120 F	Н	
05/08/91 1 hr 0 -100 F	С	
05/08/91 3 hrs @ 690 F	0	
05/09/91 1 hr 0 -100 F	С	
05/09/91 87 hrs @ 124 F	Н	
05/13/91 1 hr 0 -100 F	С	

Set-Sample: 26 -9602	Comments:	Page 4
05/13/91 2 hrs @ 650) F 0	
05/15/91 1 hr @ -100) F C	
05/15/91 1 hr @ 600	F C	
05/16/91 1 hr @ -100) F C	
05/17/91 1 hr 0 -100) F C	
05/17/91 1 hr @ 600	F C	
05/17/91 20 hrs 0 12	20 F H	
05/17/91 46 hrs @ 12	20-140 F H	
05/21/91 1 hr @ -100) F C	·
05/22/91 3 hrs 0 650) F 0	
05/24/91 4 hrs @ 680) F 0	
05/28/91 5 hrs @ 650) F 0	
05/28/9' 16 hrs @ 12	20 F H	
05/29/91 4 hrs @ 650) F 0	
05/29/91 1 hr @ -100) F C	
05/30/91 1 hr 0 -100) F C	
05/30/91 3 hrs 0 630) F 0	<u> </u>
05/30, ∃1 17 hrs @ 12	20 F H	
05/31/91 1 hr @ -100) F C	
06/03/51 3 hrs 0 650) F 0	
06/03/91 22 hrs 0 14	10 F H	
06/04/91 66 hrs 0 12	20 F H	
06/12/91 5 hrs @ 600) F 0	
06/13/91 4 hrs 0 600	0 F 0	
06/13/91 1 hr @ -120	OF C manual	
06/13/91 40 hrs 0 12	20 F H	

Set-Sample	: 26 -9602	Comments:	Page 5
06/15/91	2 hrs 9 600 F	0	
06/17/91	2 hrs @ 650 F	0	
06/17/91	1 hr @ -100 F	С	
06/17/91	18 hrs @ 120 F	Н	
06/18/91	5 hrs @ 650 F	0	92 events (-150 to 700 F) 30% failure
07/08/91	Test (Location 7) A	550 PSI (60% C/I; 40% F)
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Set-Sample: 26 - 9603 Comments:

Materials: Sheffield # 392 siliconized

1	_	0	_	6b
	2	3b	4	1 7
				5

Date	Action	Equip	Results/Comments
03/06/91	Clean		Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
03/12/91	1 hr @ 480 F	0	Bake 1257.4 g
03/12/91	16 hrs @ 115 F	Н	Humi d
03/13/91	1 hr @ -100 F	С	auto cold
03/13/91	2 hrs @ 600 F	0	hot, dry
03/13/91	16 hrs @ 140 F	Н	Humid
03/14/91	1 hr @ -100 F	C	auto
03/14/91	1 hr 0 525 F	С	manual
03/15/91	Test (Location 1)	A	700 PSI (70% A; 30% F)
03/19/91	Test (Location 2)	A	1000 PSI (100% A)
03/19/91	3 hrs @ 610 F	0	1257.3 g
03/19/91	17 hrs @ 116 F	Н	
03/20/91	3 hrs @ 650 F	0	
03/20/91	1 hr 0 -100 F	С	
03/20/91	16 hrs @ 140 F	Н	
03/21/91	l hr @ -100 F	С	
03/21/91	1 hr @ 640 F	0	
03/21/91	16 hrs 0 140 F	Н	
03/21/91	1 hr 0 -100 F	С	AM

Set-Sample: 26 -9603	Comments:	Page 2
03/22/91 1 hr 0 640 F	0	
03/22/91 1 hr @ -100 F	C	PM
03/22/91 43 hrs @ 115 F	Н	
03/24/91 1 hr @ -100 F	C	
03/25/91 1 hr @ -100 F	С	
03/25/91 17 hrs @ 140 F	Н	very humid
03/26/91 1 hr @ 0 F	C	
03/26/91 I hr @ 700 F	0	very hot
03/27/91 2 hrs @ 650 F	0	
03/27/91 1 hr @ -100 F	С	
03/28/91 l hr @ -100 F	C	
03/28/91 2 hrs @ 650 F	0	30% fail; some rust
03/29/91 Test (Location 3b) A	500 PSI (100% C) 0.6 mils
03/29/91 Test (Location 4)	A	500 PSI (100% C) 0.8 mils
03/29/91 20 hrs @ 120 F	Н	
03/30/91 1 hr 0 -100 F	С	
03/30/91 44 hrs @ 118 F	Н	
04/01/91 1 hr @ -100 F	С	
04/01/91 2 hrs 0 650 F	0	
04/01/91 20 hrs @ 120 F	Н	
04/02/91 1 hr @ -100 F	С	
04/02/91 17 hrs @ 120 F	Н	1257.4 g
04/03/91 1 hr @ -100 F	С	
04/03/91 17 hrs 0 120 F	Н	
04/04/91 1 hr @ -150 F	С	Manual 15 to 8% N ₂
04/04/91 2 hrs 0 650 F	0	

Set-Sample	: 26 -9603 Cd	mments:	Page 3
04/04/91	20 hrs @ 120 F	Н	
04/05/91	1 hr @ -100 F	С	
04/05/91	1 hr @ 650 F	Н	
04/06/91	Test (Location 5)	A	400 PSI (100% C) clean, some A
04/08/91	2 hrs @ 650 F	0	
04/08/91	1 hr @ -100 F	С	
04/08/91	40 hrs @ 120 F	Н	
04/10/91	1 hr @ -100 F	С	***************************************
04/10/91	2 hrs @ 650 F	0	
04/11/91	4 hrs @ 650 F	0	
04/11/91	14 hrs @ 150 F	Н	
04/12/91	1 hrs @ -100 F	С	
04/12/91	65 hrs @ 120 F	Н	
C4/15/91	1 hr @ -100 F	С	40% visual failure
04/17/91	Test (Location 6b)	A	500 PSI (100% C/F)
	STOP TESTING /REPORT	GENERATED	52 events (-150 to 700 F)
05/06/91			1257.3 g 0.1 g wt gain
05/06/91	17 hrs @ 120 F	Н	
05/07/91	12 hr @ -100 F	С	
05/07/91	3 hrs @ 650 F	0	
05/07/91	15 hrs @ 120 F	Н	
05/08/91	1 hr 0 -100 F	С	
05/08/91	3 hrs @ 690 F	0	
05/09/91	1 hr 0 -100 F	С	
05/09/91	87 hrs @ 124 F	Н	
05/13/91	1 hr @ -100 F	С	
05/09/91	87 hrs @ 124 F	Н	

Set-Sample:	26	9603	Comments:	Page 4
05/13/91 2	hrs	0 650 F	0	
05/15/91	l hr	9 -100 F	С	
05/15/91	l hr (600 F	С	
05/16/91	hr (-100 F	С	
05/17/91	l hr	-100 F	С	
05/17/91	l hr	600 F	С	
05/17/91 2	20 hr:	0 120 F	Н	
05/18/91	16 hr:	9 120-140 1	F H	••••••
05/21/91	l hr (-100 F	С	
05/22/91	3 hrs	@ 650 F	0	·
05/24/91	4 hrs	@ 680 F	0	
05/28/91	5 hrs	@ 650 F	0	
05/28/91	l6 hr	e 120 F	Н	
05/29/91	4 hrs	@ 650 F	0	•••••
05/29/91	l hr	9 -100 F	С	
05/30/91	l hr	9 -100 F	С	
05/30/91	hrs.	@ 630 F	0	
05/30/91	17 hr:	0 120 F	Н	
05/31/91	l hr (-100 F	С	
06/03/91	3 hrs	0 650 F	0	
06/03/91	22 hr:	0 140 F	Н	
06/04/91	56 hr:	0 120 F	Н	
06/12/91	5 hrs	@ 600 F	0	
06/13/91	hrs.	@ 600 F	0	
06/13/91	l hr	-120 F	С	manua]
06/13/91	40 hr	s @ 120 F	Н	

Set-Sample:	: 26 -	9603		Comments:			Page	5
06/15/91	2 hrs	9 600	F	0				
06/17/91	2 hrs	0 650	F	0		**********		
06/17/91	1 hr 6	-100	F	С				
06/17/91	18 hrs	@ 120	F	Н		•		
06/18/91	5 hrs	@ 650	F	0	92 events	(-150 to 700	F) 30% f	ailure
07/08/91	Test (Locati	on 7)	Α	550 PSI	(85% C; 15% F)	

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3b

Set-Sample: 26 - 9604 Comments: poor spraying

Materials: MARB-4 Old Lot:October 1990 A285 steel

Equip Definitions: 1 side brushed over

			: 3
Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/12/91	Clean	-	5 minutes gel, rinse, quick air dry
03/12/91	Coat	S	Spray entire panel - clumpy, poor uniform
03/12/91	1 hr @ 480 F	0	Cure 1271.0 g
03/12/91	16 hrs @ 115 F	Н	Humi d
03/13/91	1 hr @ -100 F	С	auto cold
03/13/91	2 hrs @ 600 F	0	hot, dry
03/13/91	16 hrs @ 140 F	Н	Humi d
03/14/91	1 hr @ -100 F	С	auto
03/14/91	1 hr @ 520 F	С	manual
03/15/91	Test (Location 1)	Α	100 PSI (90% A; 10% F)
03/19/91	Test (Location 2)	A	1000 PSI (50% F; 50% C/I/A) flaky
03/19/91	3 hrs 0 610 F	0	1270.8 g
03/19/91	17 hrs @ 116 F	Н	
03/20/91	3 hrs 0 650 F	0	
03/20/91	1 hr @ -100 F	С	
03/20/91	16 hrs @ 140 F	Н	
03/21/91	1 hr @ -100 F	С	
03/21/91	1 hr @ 640 F	0	
03/21/91	16 hrs @ 140 F	Н	
03/22/91	1 hr 0 -100 F	C	AM

Set-Sample: 26 -9604	Comments:	Page 2
03/22/91 1 hr @ 640 F	0	
03/22/91 1 hr @ -100 F	C	PM
03/22/91 43 hrs @ 115	F H	
03/24/91 1 hr @ -100 F	С	
03/25/91 1 hr @ -100 F	С	
03/25/91 17 hrs @ 140	F H	very humid
03/26/91 1 hr @ 0 F	С	
03/26/91 1 hr @ 700 F	0	very hot
03/27/91 2 hrs @ 650 F	0	
03/27/91 1 hr @ -100 F	C	·
03/28/91 1 hr @ -100 F	С	
03/28/91 2 hrs @ 650 F	0	50% failure brush side; 10% fail back
03/29/91 Test (Location	on 3b) A	750 PSI (70% C; 25% F; 5% dolly) 2.3 mils
03/29/91 Test (Location	on 4) A	600 PSI (100% C) 1.05 mils
03/29/91 20 hrs @ 120	F H	
03/30/91 1 hr @ -100 F	С	
03/30/91 44 hrs @ 118	F H	
04/01/91 1 hr @ -100 F	· C	
04/01/91 2 hrs @ 650 f	0	
04/01/91 20 hrs @ 120	F H	
04/02/91 1 hr @ -100 f	C C	
04/02/91 17 hrs @ 120	F H	1270.7 g
04/03/91 1 hr @ -100 i	F C	
04/03/91 17 hrs @ 120	F H	
04/04/91 1 hr @ -150 !	F C	Manual 15 to 8% N ₂
04/04/91 2 hrs 0 650 i	F 0	

Set-Sample	e: 26 -9604 ·	Comments:	Page 3
04/04/91	20 hrs 0 120 F	Н	
04/05/91	1 hr 0 -100 F	С	
04/05/91	1 hr @ 650 F	0	
04/06/91	Test (Location 5)	A	>1000 PSI
04/08/91	2 hrs @ 650 F	0	
04/08/91	1 hr @ -100 F	С	
04/08/91	40 hrs @ 120 F	Н	
04/10/91	1 hr @ -100 F	С	
04/10/91	2 hrs @ 650 F	0	
04/11/91	4 hrs @ 650 F	0	
04/11/91	14 hrs @ 150 F	Н	
04/12/91	1 hrs 0 -100 F	С	
04/12/91	65 hrs @ 120 F	Н	
04/15/91	1 hr 0 -100 F	С	5% visual failure
04/17/91	Test (Location 6)	A	600 PSI (100 % C) 1270.6g
	STOP TESTING /REP	ORT GENERATEI) 52 events (-150 to 700 F)
05/06/91		continued to	esting 0.4 to 0.2 g wt loss
05/06/91	17 hrs @ 120 F	Н	
05/07/91	12 hr @ -100 F	С	
05/07/91	3 hrs 0 650 F	0	
05/07/91	15 hrs @ 120 F	Н	
05/08/91	1 hr 0 -100 F	С	
05/08/91	3 hrs @ 690 F	0	
05/09/91	1 hr 0 -100 F	С	
05/09/91	87 hrs @ 124 F	Н	
05/13/91	1 hr 0 -100 F	С	

Set-Sample: 26 -9604	Comments:	Page 4
05/13/91 2 hrs 0 650 F	0	
05/15/91 1 hr 0 -100 F	С	
05/15/91 1 hr @ 600 F	С	
05/16/91 1 hr 0 -100 F	С	***************************************
05/17/91 1 hr @ -100 F	С	
05/17/91 1 hr @ 600 F	С	***************************************
05/17/91 20 hrs @ 120 F	Н	
05/17/91 46 hrs @ 120-140	F H	
05/21/91 1 hr @ -100 F	С	
05/22/91 3 hrs @ 650 F	0	
05/24/91 4 hrs @ 680 F	0	
05/28/91 5 hrs @ 650 F	0	
05/28/91 16 hrs @ 120 F	Н	***************************************
05/29/91 4 hrs @ 650 F	0	
05/29/91 1 hr @ -100 F	С	
05/30/91 1 hr @ -100 F	С	***************************************
05/30/91 3 hrs 0 630 F	0	
05/30/91 17 hrs @ 120 F	Н	
05/31/91 1 hr @ -100 F	С	
06/03/9 ¹ 3 hrs @ 650 F	0	***************************************
06/03/91 22 hrs 0 140 F	Н	
06/04/91 66 hrs 0 120 F	Н	
06/12/91 5 hrs @ 600 F	0	
06/13/91 4 hrs @ 600 F	0	
06/13/91 1 hr 0 -120 F	С	manual
06/13/91 40 hrs @ 120 F	Н	

Set-Sample	: 26	-9604		Comments:		Page 5
06/15/91	2 hrs	600	F	0		
06/17/91	2 hrs	650	F	0		
06/17/91	1 hr	0 -100	F	С	************************	
06/17/91	18 hi	rs @ 12	0 F	Н		
06/18/91	5 hr	s @ 650	F	0	92 events (-150 to 700 F)	20% failure
07/08/91	Test	(Locat	ion 7) A	500 PSI (90% C; 10% F)	
					The failure was on thin coa	ited side
-						
			_			

Page 1

Set-Sample: 26 -	9605	Comments:
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Materials: MARB-4 New Lot

2	0 4	6b 1 3b
		5

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/12/91	Clean	-	5 minutes gel, rinse, quick air dry
03/12/91	Coat	S	Spray entire panel
03/12/91	l hr @ 480 F	0	Cure Good hard coating 1281.6 g
03/12/91	16 hrs @ 115 F	Н	Humid
03/13/91	1 hr @ -100 F	С	auto cold
03/13/91	2 hrs @ 600 F	0	hot, dry
03/13/91	16 hrs @ 140 F	Н	Humid
03/14/91	1 hr @ -100 F	С	auto
03/14/91	1 hr 0 520 F	С	manual
03/15/91	Test (Location 1)	A	500 PSI (90% dolly; 10% F)
03/19/91	Test (Location 2)	A	1000 PSI (80% dolly; 20% F)
03/19/91	3 hrs @ 610 F	0	1281.6 g
03/19/91	17 hrs @ 116 F	Н	
03/20/91	3 hrs @ 650 F	0	
03/20/91	1 hrs 0 -100 F	С	
03/20/91	16 hrs @ 140 F	Н	
03/21/91	1 hr 0 -100 F	С	
03/21/91	1 hr 0 640 F	0	
03/21/91	16 hrs 0 140 F	Н	
03/22/91	1 hr 0 -100 F	C	AM

Set-Sample: 26 -9605	Comments:		Page 2
03/22/91 l hr @ 640 F	0		
03/22/91 1 hr @ -100 F	С	PM	
03/22/91 43 hrs 0 115 F	Н		
03/24/91 1 hr @ -100 F	С		
03/25/91 1 hr @ -100 F	С		
03/25/91 17 hrs 0 140 F	Н	very humid	
03/26/91 1 hr @ 0 F	С		
03/26/91 I hr @ 700 F	0	very hot	
03/27/91 2 hrs @ 650 F	0		
03/27/91 1 hr @ -100 F	С		
03/28/91 1 hr 0 -100 F	С		
03/28/91 2 hrs @ 650 F	0	10% coating fail, no rust	
03/29/91 Test (Location 3b) A	500 PSI (60% F; 40% C)	1.1 mils
03/29/91 Test (Location 4)	A	600 PSI (100% C/I, C)	0.85 mils
03/29/91 20 hrs 0 120 F	Н		
03/30/91 1 hr @ -100 F	С		
03/30/91 44 hrs 0 118 F	Н		,
04/01/91 1 hr @ -100 F	С		
04/01/91 2 hrs @ 650 F	0		
04/01/91 20 hrs @ 120 F	Н		
04/02/91 1 hr @ -100 F	С		
04/02/91 17 hrs 0 120 F	Н	1281.5 g	
04/03/91 1 hr @ -100 F	С		
04/03/91 17 hrs @ 120 F	Н		
04/04/91 1 hr 0 -150 F	C	Manual 15 to 8% N ₂	
04/04/91 2 hrs 650 F	0		

Set-Sample	: 26 -9605	Comments:	Page 3
04/04/91	20 hrs @ 120 F	H	
04/05/91	1 hr @ -100 F	С	
04/05/91	1 hr @ 650 F	0	
04/06/91	Test (Location 5)	A	>1000 PSI
04/08/91	2 hrs @ 650 F	0	
04/08/91	l hr @ -100 F	С	
04/08/91	40 hrs @ 120 F	Н	
04/10/91	1 hr @ -100 F	С	
04/10/91	2 hrs @ 650 F	0	
04/11/91	4 hrs 0 650 F	0	
04/11/91	14 hrs @ 150 F	Н	
04/12/91	1 hrs 0 -100 F	С	
04/12/91	65 hrs @ 120 F	Н	
04/15/91	1 hr @ -100 F	С	1% visual failure
04/17/91	Test (Location 6)	A	900 PSI (100% C)
	STOP TESTING /REPO	ORT GENERATED	1281.4g 52 events (-150 to 700 F)
05/06/91	Continue testing 1	o failure	0.35 g wt gain
05/06/91	17 hrs 0 120 F	Н	
05/07/91	12 hr 0 -100 F	С	
05/07/91	3 hrs @ 650 F	0	
05/07/91	15 hrs 0 120 F	Н	
05/08/91	1 hr 0 -100 F	С	
05/08/91	3 hrs 0 690 F	0	
05/09/91	1 hr 0 -100 F	С	
05/09/91	87 hrs 0 124 F	Н	
05/13/91	1 hr 0 -100 F	С	

Set-Sample	: 26 -9605	Comments:	Page 4
05/13/91	2 hrs 0 650 F	0	
05/15/91	1 hr @ -100 F	С	
05/15/91	1 hr 0 600 F	С	
05/16/91	1 hr @ -100 F	С	
05/17/91	1 hr @ -100 F	С	
05/17/91	1 hr @ 600 F	С	
05/17/91	20 hrs 0 120 F	Н	
05/17/91	46 hrs @ 120-140	F H	***************************************
05/21/91	1 hr @ -100 F	С	
05/22/91	3 hrs @ 650 F	0	
05/24/91	4 hrs @ 680 F	0	
05/28/91	5 hrs @ 650 F	0	
05/28/91	16 hrs @ 120 F	Н	***************************************
05/29/91	4 hrs 0 650 F	0	
05/29/91	1 hr 0 -100 F	С	
05/30/91	1 hr 0 -100 F	C	***************************************
05/30/91	3 hrs 0 630 F	0	
05/30/91	17 hrs 0 120 F	Н	
05/31/91	1 hr 0 -100 F	C	
06/03/91	3 hrs 0 650 F	0	
06/03/91	22 hrs @ 140 F	Н	
06/04/91	66 hrs 0 120 F	Н	
06/12/91	5 hrs 0 600 F	0	
06/13/91	4 hrs @ 600 F	0	
06/13/91	1 hr 0 -120 F	C	manual
06/13/91	40 hrs 0 120 F	Н	

Set-Sample: 26 -9605	Comments:	Page 5		
06/15/91 2 hrs @ 600	0			
06/17/91 2 hrs @ 650	0			
06/17/91 1 hr @ -100	C			
06/17/91 18 hrs @ 120	F H			
06/18/91 5 hrs @ 650 i	0	92 events (-150 to 700 F) 5% failure		
07/08/91 Test (Location	on 7) A	850 PSI (90 % C; 10% F)		
SEE SET26.OLD for 9601 and 9606; SET26.AMB for Ambient testing				

Set-Sample: 26 - 9606	Comments:
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Materials: Sherwin Williams Spray Aluminum

Equip Definitions:

0 6b 2 4 1 3b

Page 1

Date	Action	Equip	Results/Comments	
03/06/91	Clean	-	Remove all mill scale with 50% HCL	
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry	
03/11/91	Coat	S	Spray entire panel	
03/12/91	1 hr 0 480 F	0	Bake 1284.15 g	
03/12/91	16 hrs 0 115 F	Н	Humid	
03/13/91	1 hr 0 -100 F	С	auto cold	
03/13/91	2 hrs @ 600 F	0	hot, dry	
03/13/91	16 hrs @ 140 F	Н	Humid	
03/14/91	1 hr @ -100 F	С	auto	
03/14/91	1 hr 0 520 F	С	manual	
03/15/91	Test (Location 1)	Α	100 PSI (70% C; 30% A)	
03/19/91	Test (Location 2)	Α	550 PSI (85% C; 4% A; 1% dolly)	
03/19/91	3 hrs 0 610 F	0	128 4.0 g	
03/19/91	17 hrs 0 116 F	Н		
03/20/91	3 hrs 0 650 F	0		
03/20/91	1 hr 0 -100 F	С		
03/20/91	16 hrs 0 140 F	Н		
03/21/91	1 hr 0 -100 F	С		
03/21/91	1 hr 0 640 F	0		
03/21/91	16 hrs 0 140 F	Н		
03/22/91	1 hr 0 -100 F	C	AM	

Page 2

MRC Fabrication/Conditioning/Test Form 91-1

Set-Samp	le:	26	-9606	Comments:
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A516-70 panel Materials: Sherwin Williams Spray Aluminum	2 3b	0 6	ib 1
Equip Definitions:	30		
			5
	1		1

Date	Action	Equip	Results/Comments
03/22/91	1 hr @ 640 F	0	
03/22/91	1 hr @ -100 F	С	PM
03/22/91	43 hrs @ 115 F	Н	
03/24/91	1 hr @ -100 F	С	
03/25/91	1 hr @ -100 F	С	
03/25/91	17 hrs @ 140 F	Н	very humid
03/26/91	1 hr @ 0 F	С	
03/26/91	1 hr @ 700 F	0	very hot
03/27/91	2 hrs 0 650 F	0	
03/27/91	1 hr @ -100 F	С	
03/28/91	1 hr @ -100 F	С	
03/28/91	2 hrs @ 650 F	0	90% fail; alot of rust
03/29/91	Test (Location 3b)	A	950 PSI (50% C; 20% A; 30% F,D) 0.4 mils
03/29/91	Test (Location 4)	A	600 PSI (60% C/I,C; 40% A) 0.9 mils
03/29/91	20 hrs @ 120 F	Н	
03/30/91	1 hr @ -100 F	С	
03/30/91	44 hrs 0 118 F	Н	
04/01/91	1 hr 0 -100 F	С	
04/01/91	2 hrs @ 650 F	0	
04/01/91	20 hrs 0 120 F	Н	
04/02/91	1 hr 0 -100 F	С	

	MRC Fabric	cation/Cond	itioning/Test Form 91-1 Page 3
Set-Sample	: 26 -9606 C	omments:	
04/02/91	17 hrs @ 120 F	Н	1284.3 g
04/03/91	1 hr @ -100 F	С	
04/03/91	17 hrs @ 120 F	Н	
04/04/91	1 hr @ -150 F	С	Manual 15 to 8% N ₂
04/04/91	2 hrs @ 650 F	0	
04/04/91	20 hrs @ 120 F	Н	
04/05/91	1 hr 0 -100 F	С	
04/05/91	1 hr 0 650 F	0	
04/06/91	Test (Location 5)	A	900 PSI (20% D; 60% F; 20% C)
04/08/91	2 hrs @ 650 F	0	
04/08/91	1 hr @ -100 F	С	
04/08/91	40 hrs @ 120 F	Н	
04/10/91	1 hr 0 -100 F	С	
04/10/91	2 hrs 0 650 F	0	
04/11/91	4 hrs @ 650 F	0	
04/11/91	14 hrs @ 150 F	Н	
04/12/91	1 hrs @ -100 F	С	
04/12/91	65 hrs 0 120 F	Н	
04/15/91	1 hr 0 -100 F	С	90% visual failure
04/17/91	Test (Location 6)	A	650 PSI (80% C; 10% F; 10% A/ rust)
	STOP TESTING /REPORT	T GENERATED	

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Page 1

S*t-Sample: 26 -9601A Comments:

A516-70 panel Materials: Sherwin Williams B59S3 Silicone paint

1	4	
•	•	2
		3B

				38
Date	Action	Equip	Results/Comments	1
03/06/91	Clean	-	Remove all mill scale with 50% HCL	
03/11/91	Clean	-	5 minutes gel, rinse, qu	ick air dry
03/11/91	Coat	S	Spray entire panel	
	Ambient drying			
03/19/91	Test (Location 1)	Α	100 PSI (100% C) near E	роху
04/15/91	Test (Location 2)	A	100 PSI (100% C)	
	Hardness	В	600g medium scrape	
04/15/91	1 hr @ 487 F	0	l month late cure	
04/15/91	40 hrs @ 115 F	Н		
04/17/991	l hr @ -100 F	С	************************	
04/17/91	2 hrs @ 650 F	0		
04/17/91	14 hrs @ 115 F	Н		
04/18/91	1 hr @ -100 F	С		
04/18/91	2 hrs @ 650 F	0		
04/18/91	17 hrs @ 120 F	Н		
04/19/91	1 hr @ -100 F	С		
04/19/91	1 hr @ 620 F	0		*
04/19/91	18 hrs @ 120 F	Н		
04/20/91	1 hr @ -100 F	С		
04/20/91	2 hrs 0 650 F	0		
04/20/91	44 hrs @ 118 F	Н		

Page 2

Set-Sample: 26 -9601A Comments: See pg 1

A516-70 panel Materials: SW B59S3

1	4	
_	·	2
		3B

D. b.			
Date	Action	Equip	Results/Comments
04/22/91	1 hr @ -100 F	С	
04/22/91	1 hr @ 650 F	0	
04/22/91	15 hrs @ 115 F	Н	
04/23/91	1 hr @ -100 F	С	
04/23/91	3 hrs @ 780 F	0	very hot
04/23/91	17 hrs @ 118 F	Н	very humid
04/24/91	1 hr @ -100 F	С	
04/24/91	4 hrs @ 650 F	0	
04/25/91	1 hr @ -100 F	C	
04/25/91	3 hrs @ 630 F	0	
04/27/91	Test (Location 38)	A	>800 no failure General rusting
04/29/91	1 hr @ -100 F	С	
04/29/91	3 hrs @ 650 F	0	
04/29/91	16 hrs 0 118 F	Н	wet panels before exposure
04/30/91	1 hr @ 480 F	0	
04/30/91	1 hr @ -100 F	С	
04/30/91	17 hrs 0 118 F	0	
05/01/91	1 hr @ -100 F	С	
05/01/91	3 hrs @ 790 F	0	нот
05/02/91	3 hrs @ 750 F	0	нот
05/02/91	18 hrs @ 117 F	Н	

Page 3

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9601A	Comments:	
05/03/91 3 hrs @ 690 F	0	· · · · · · · · · · · · · · · · · · ·
05/03/91 64 hrs @ 120 F	Н	
05/06/91 3 hrs @ 690 F	0	
05/06/91 1 hr @ -100 F	С	
05/06/91 17 hrs @ 120 F	Н	
05/07/91 1 hr @ -100 F	С	
05/07/91 3 hrs @ 650 F	0	
05/07/91 15 hrs @ 120 F	Н	
05/08/91 1 hr @ -100 F	С	
05/08/91 3 hrs @ 690 F	0	
05/09/91 1 hr @ -100 F	С	
05/09/91 87 hrs @ 124 F	Н	
05/13/91 1 hr @ -100 F	С	
05/13/91 2 hrs @ 650 F	0	
05/15/91 1 hr @ -100 F	С	autocycle
05/15/91 1 hr @ 600 F	С	autocycle
05/16/91 1 hr @ -100 F	С	
05/17/91 1 hr @ -100 F	С	autocycle
05/17/91 1 hr @ 600 F	С	autocycle
05/17/91 20 hrs @ 120 F	Н	
05/18/91 46 hrs @ 120-140	F H	
05/21/91 1 hr @ -100 F	С	
05/22/91 3 hrs @ 650 F	0	
05/24/91 4 hrs @ 680 F	0	

Page 4

Set-Sample:	26	-9601A	Comments:
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A516-70 panel	
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Materials: Sherwin Williams B59S3 Silicone paint

1	4	
-		2
		3B

				3B
Date	Action	Equip	Results/Comments	
05/28/91	5 hrs @ 650 F	0		
05/28/91	16 hrs @ 120 F	Н		
05/29/91	4 hrs @ 650 F	0		
05/29/91	1 hr @ -100 F	С		
05/30/91	1 hr @ -100 F	С		
05/30/91	3 hrs 0 630 F	0		
05/30/91	17 hrs @ 120 F	Н		
05/31/91	1 hr @ -100 F	С		_
06/03/91	3 hrs @ 650 F	0		
06/05/91	22 hrs @ 140 F	Н		
06/06/91	66 hrs @ 120 F	Н		
06/12/91	5 hrs @ 600 F	0	_	
06/13/91	4 hrs @ 600 F	0		
06/13/91	1 hr @ -120 F	C ·	manual	
06/13/91	40 hrs @ 120 F	Н		
06/15/91	2 hrs @ 600 F	0		
06/17/91	2 hrs @ 650 F	0		
06/17/91	1 hr @ -100 F	С		
06/17/91	18 hrs @ 120 F	Н		•••••
06/18/91	5 hrs @ 650 F	0	Pictures 76 events (-1	50 to 790 F)
07/08/91	Test (Location 4)	Α	>1000 PSI 90% R	USTING

Page 1

Set-Sample:	26	-9602A	Comments:
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Materials: Sherwin Williams 85988 Silicone paint

1	0	2 3

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
	Ambient drying		
03/19/91	Test (Location 1)	A	100 PSI (100% C) near Epoxy
04/15/91	Test (Location 2)	A	100 PSI (100% C)
	Hardness	В	600g medium scrape
04/15/91	1 hr @ 487 F	0	1 month late cure
04/15/91	40 hrs @ 115 F	Н	
04/17/91	1 hr @ -100 F	С	
04/17/91	2 hrs @ 650 F	0	
04/17/91	14 hrs @ 115 F	Н	
04/18/91	1 hr @ -100 F	С	
04/18/91	2 hrs @ 650 F	0	
04/18/91	17 hrs @ 120 F	Н	
04/19/91	1 hr @ -100 F	С	
04/19/91	1 hr @ 620 F	0	
04/19/91	18 hrs @ 120 F	Н	
04/20/91	1 hr @ -100 F	С	
04/20/91	2 hrs @ 650 F	0	••••••
04/20/91	44 hrs @ 118 F	Н	

MRC Fabrication/Conditioning/Test Form 91-1 Page 2 Set-Sample: 26 -9602A Comments: A516-70 panel Materials: SW B59S8 1 2 3 Equip Definitions: Date Action Equip Results/Comments 04/22/91 1 hr @ -100 F C 04/22/91 1 hr @ 650 F 0 04/22/91 15 hrs @ 115 F Н 04/23/91 C 1 hr @ -100 F 04/23/91 3 hrs @ 780 F 0 . very hot 04/23/91 17 hrs @ 118 F Н very humid 04/24/91 1 hr @ -100 F C 04/24/91 4 hrs @ 650 F 0 04/25/91 1 hr @ -100 F C 04/25/91 3 hrs @ 630 F 04/27/91 Test (Location 3) A >800 no failure Little rusting 04/29/91 l hr @ -100 F 04/29/91 3 hrs @ 650 F 0 04/29/91 16 hrs @ 118 F H wet panels before exposure 04/30/91 1 hr @ 480 F 04/30/91 1 hr @ -100 F 04/30/91 17 hrs @ 118 F 0 05/01/91 l hr @ -100 F 05/01/91 3 hrs @ 790 F 0 HOT 05/02/91 3 hrs @ 750 F 0 HOT

05/02/91 18 hrs @ 117 F H

Set-Sample: 26 -9602A	Comments:	Page 3
05/03/91 3 hrs 0 690 F	0	
05/03/91 64 hrs 0 120 F	Н	
05/06/91 3 hrs @ 690 F	0	
05/06/91 1 hr @ -100 F	С	
05/06/91 17 hrs @ 120 F	Н	
05/07/91 1 hr @ -100 F	С	
05/07/91 3 hrs @ 650 F	0	
05/07/91 15 hrs @ 120 F	Н	
05/08/91 1 hr @ -100 F	С	
05/08/91 3 hrs @ 690 F	0	
05/09/91 1 hr @ -100 F	С	
05/09/91 87 hrs @ 124 F	Н	
05/13/91 1 hr @ -100 F	С	
05/13/91 2 hrs @ 650 F	0	
05/15/91 1 hr @ -100 F	С	autocycle
05/15/91 1 hr @ 600 F	С	autocycle
05/16/91 1 hr @ -100 F	С	
05/17/91 1 hr @ -100 F	С	autocycle
05/17/91 1 hr @ 600 F	С	autocycle
05/17/91 20 hrs @ 120 F	Н	
05/18/91 46 hrs @ 120-140	F H	
05/21/91 1 hr @ -100 F	С	
05/22/91 3 hrs 0 650 F	0	
05/24/91 4 hrs @ 680 F	0	••••••

Set-Sample: 26 -9602A Comments:

A516-70 panel Materials: Sherwin Williams B59S8 Silicone paint

2

Date	Action	Equip	Results/Comments	
05/28/91	5 hrs @ 650 F	0		
05/28/91	16 hrs @ 120 F	Н		
05/29/91	4 hrs @ 650 F	0		
05/29/91	1 hr @ -100 F	С		
05/30/91	1 hr 0 -100 F	С		
05/30/91	3 hrs @ 630 F	0		
05/30/91	17 hrs @ 120 F	Н		
05/31/91	1 hr @ -100 F	С		
06/03/91	3 hrs @ 650 F	0		
06/05/91	22 hrs @ 140 F	Н		
06/06/91	66 hrs @ 120 F	Н		
06/12/91	5 hrs @ 600 F	0		
06/13/91	4 hrs @ 600 F	0		
06/13/91	1 hr @ -120 F	С	manual	
06/13/91	40 hrs @ 120 F	Н		
06/15/91	2 hrs @ 600 F	0		
06/17/91	2 hrs @ 650 F	0		
06/17/91	1 hr 0 -100 F	С		
06/17/91	18 hrs @ 120 F	Н		
06/18/91	5 hrs @ 650 F	0	Pictures 76 events (-1	50 to 790 F)
07/08/91	Test (Location 4)	Α	>1000 PSI 10% R	USTING

Page 1

Set-Sample: 26 -9603A Comments: Mar 6 - Jul 8

A516-70 panel Materials: Sheffield #392 siliconized

1	0	1	
4		2	
•		3Ь	

Date	Action	Equip	Results/Comments
03/06/91	Clean	•	Remove all mill scale with 50% HCL
03/11/91	Clean	•	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
	Ambient drying		
03/19/91	Test (Location 1)	A	100 PSI (100% C)
04/15/91	Test (Location 2)	A	100 PSI (100% C)
********	Hardness	В	600g medium scrape
04/15/91	1 hr @ 487 F	0	1 month late cure
04/15/91	40 hrs @ 115 F	Н	
04/17/991	1 hr @ -100 F	С	
04/17/91	2 hrs @ 650 F	0	
04/17/91	14 hrs @ 115 F	Н	
04/18/91	1 hr @ -100 F	С	
04/18/91	2 hrs @ 650 F	0	
04/18/91	17 hrs @ 120 F	Н	
04/19/91	1 hr @ -100 F	С	
04/19/91	1 hr 0 620 F	0	
04/19/91	18 hrs @ 120 F	Н	
04/20/91	1 hr 0 -100 F	С	
04/20/91	2 hrs 0 650 F	0	
04/20/91	44 hrs @ 118 F	Н	

Set-Sample:	26 -9603A C	comments:	Page 2.
04/22/91 1	hr @ -100 F	С	
04/22/91 1	hr @ 650 F	0	
04/22/91 15	hrs @ 115 F	Н	
04/23/91 1	hr @ -100 F	С	
04/23/91 3	hrs @ 780 F	0	very hot
04/23/91 17	hrs @ 118 F	Н	very humid
04/24/91 1	hr @ -100 F	С	
04/24/91 4	hrs @ 650 F	0	
04/25/91 1	hr @ -100 F	С	
04/25/91 3	hrs @ 630 F	0	
04/27/91 Te	st (Location 3b)	Α .	>800 no failure General rusting
04/29/91 1	hr @ -100 F	С	
04/29/91 3	hrs @ 650 F	0	
04/29/91 16	hrs @ 118 F	Н	wet panels before exposure
04/30/91 1	hr @ 480 F	0	
04/30/91 1	hr @ -100 F	С	
04/30/91 17	hrs @ 118 F	0	
05/01/91 1	hr @ -100 F	С	
05/01/91 3	hrs @ 790 F	0	нот
05/02/91 3	hrs @ 750 F	0	нот
05/02/91 18	hrs @ 117 F	Н	
05/03/91 3	hrs @ 690 F	0	
05/03/91 64	hrs @ 120 F	Н	
05/06/91 3	hrs @ 690 F	0	
05/06/91 1	hr @ -100 F	С	
05/06/91 17	hrs @ 120 F	Н	
			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Set-Sample: 26 -9603A	Comments:	Page 3
05/07/91 1 hr @ -100 F	С	
05/07/91 3 hrs @ 650 F	0	
05/07/91 15 hrs @ 120 F	Н	
05/08/91 1 hr @ -100 F	С	
05/08/91 3 hrs @ 690 F	0	
05/09/91 1 hr @ -100 F	С	
05/09/91 87 hrs @ 124 F	Н	
05/13/91 1 hr @ -100 F	С	
05/13/91 2 hrs @ 650 F	0	
05/15/91 1 hr @ -100 F	С	autocycle
05/15/91 1 hr @ 600 F	С	autocycle
05/16/91 1 hr @ -100 F	С	
05/17/91 1 hr @ -100 F	С	autocycle
05/17/91 1 hr @ 600 F	С	autocycle
05/17/91 20 hrs 0 120 F	Н	
05/18/91 46 hrs @ 120-140	F H	
05/21/91 1 hr @ -100 F	С	
05/22/91 3 hrs @ 650 F	0	
05/24/91 4 hrs @ 680 F	0	
05/28/91 5 hrs @ 650 F	0	
05/28/91 16 hrs @ 120 F	Н	
05/29/°1 4 hrs @ 650 F	0	
05/29/91 1 hr @ -100 F	С	
05/30/91 1 hr @ -100 F	С	
05/30/91 3 hrs @ 630 F	0	
05/30/91 17 hrs @ 120 F	Н	

Set-Sample: 26 -9603A	Comments:		Page 4
05/31/91 1 hr @ -100 F	С	***********************	
06/03/91 3 hrs 0 650 F	0	************	
06/03/91 22 hrs @ 140 F	Н	**********	
06/04/91 66 hrs @ 120 F	H	• • • • • • • • • • • • • • • • • • • •	
06/12/91 5 hrs @ 600 F	0	******************	
06/13/91 4 hrs @ 600 F	0		
06/13/91 1 hr @ -120 F	С	manual	
06/13/91 40 hrs @ 120 F	Н	• • • • • • • • • • • • • • • • • • • •	
06/15/91 2 hrs @ 600 F	0	*************************	
06/17/91 2 hrs @ 650 F	0	••••••••	
06/17/91 1 hr @ -100 F	С	***************************************	
06/17/91 18 hrs @ 120 F	Н		
06/18/91 5 hrs @ 650 F	0	76 events (-150 t	790 F)
07/08/91 Test (Location 4)	A	250 PSI (90% C; 10% F)	20% rusting
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	MRC Fab	rication/Con	ditioning/Test Form 91-1	Page 1
Set-Sample	: 26 -9604A	Comments:		
Materials:	A516-70 panel Old MARB 4	,		1 2
Equip Defi	nitions:			3
Date	Action	Equip	Results/Comments	
03/06/91	Clean	*	Remove all mill scale wit	h 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, qui	ck air dry
03/11/91	Coat	S	Spray entire panel	
_	Ambient dry			
03/19/91	Test (Location 1)	Α	100 PSI (100% C) near F	
04/15/91	Test (Location 2)	Α	150 PSI (100% C)	
	Hardness	В	600g medium scrape	
04/15/91	l hr @ 487 F	0	l month late cure	
04/15/91	40 hrs @ 115 F	Н		
04/17/991	1 hr @ -100 F	С		
04/17/91	2 hrs @ 650 F	0		
04/17/91	14 hrs @ 115 F	, н		
04/18/91	1 hr @ -100 F	С		
04/18/91	2 hrs @ 650 F	0		
04/18/91	17 hrs @ 120 F	Н		
04/19/91	1 hr @ -100 F	С		
04/19/91	1 hr @ 620 F	0		
04/19/91	18 hrs @ 120 F	Н		
04/20/91	1 hr @ -100 F	С		
04/20/91	2 hrs 0 650 F	0		

04/20/91 44 hrs @ 118 F H

Set-Sample: 26 -9604A Commen	ts: Page 2
04/22/91 1 hr @ -100 F C	
04/22/91 1 hr @ 650 F 0	•••••••••••••••••••••••••••••••••••••••
04/22/91 15 hrs @ 115 F H	
04/23/91 1 hr @ -100 F C	
04/23/91 3 hrs @ 780 F 0	very hot
04/23/91 17 hrs @ 118 F H	very humid
04/24/91 1 hr @ -100 F C	
04/24/91 4 hrs @ 650 F 0	
04/25/91 1 hr @ -100 F C	
04/25/91 3 hrs @ 630 F 0	Poor coating; aluminum specks protuding
04/27/91 Test (Location 3) A	>900 no failure General rusting
04/29/91 1 hr @ -100 F C	
04/29/91 3 hrs @ 650 F 0	
04/29/91 16 hrs 0 118 F H	wet panels before exposure
04/30/91 1 hr @ 490 F 0	
04/30/91 1 hr @ -100 F C	
04/30/91 17 hrs @ 118 F 0	
05/01/91 1 hr @ -100 F C	
05/01/91 3 hrs @ 790 F 0	нот
05/02/91 3 hrs @ 750 F 0	нот
05/02/91 18 hrs @ 117 F H	
05/03/91 3 hrs @ 690 F 0	
05/03/91 64 hrs @ 120 F H	
05/06/91 3 hrs @ 690 F 0	
05/06/91 1 hr 0 -100 F C	
05/06/91 17 hrs @ 120 F H	

Set-Sample: 26 -9604A	Comments:	Page 3
05/07/91 1 hr @ -100 F	С	_
05/07/91 3 hrs @ 650 F	0	
05/07/91 15 hrs @ 120 F	Н	
05/08/91 1 hr @ -100 F	С	
05/08/91 3 hrs @ 690 F	0	
05/09/91 1 hr @ -100 F	С	
05/09/91 87 hrs @ 124 F	Н	
05/13/91 1 hr @ -100 F	С	
05/13/91 2 hrs @ 650 F	0	
05/15/91 1 hr @ -100 F	С	autocycle
05/15/91 1 hr @ 600 F	С	autocycle
05/16/91 1 hr @ -100 F	С	
05/17/91 1 hr @ -100 F	С	autocycle
05/17/91 1 hr @ 600 F	С	autocycle
05/17/91 20 hrs @ 120 F	Н	
05/18/91 46 hrs @ 120-140	F H	
05/21/91 1 hr @ -100 F	С	
05/22/91 3 hrs @ 650 F	0	
05/24/91 4 hrs @ 680 F	0	
05/28/91 5 hrs @ 650 F	0	
05/28/91 16 hrs @ 120 F	Н	
05/29/91 4 hrs @ 650 F	0	
05/29/91 1 hr @ -100 F	С	
05/30/91 1 hr @ -100 F	С	
05/30/91 3 hrs @ 630 F	0	
05/30/91 17 hrs @ 120 F	Н	

Set-Sample: 26 -9604	A Comment:	s:		Page 4
05/31/91 1 hr @ -10	0 F C			
06/03/91 3 hrs @ 65	0 F 0	******		
06/03/91 22 hrs @ 1	40 F H	*******		
06/04/91 66 hrs @ 1	20 F H			
06/12/91 5 hrs @ 60	<b>0</b> F 0			
06/13/91 4 hrs @ 60	0 F 0	_		
06/13/91 1 hr @ -12	0 F C	manual		
06/13/91 40 hrs @ 1	20 F H			
06/15/91 2 hrs @ 60	<b>0</b> F 0			
06/17/91 2 hrs @ 65	0 F 0			
06/17/91 1 hr @ -10	0 F C			
06/17/91 18 hrs @ 1	20 F H			
06/18/91 5 hrs @ 65	0 F 0		76 events (-1	50 F to 790 F)
07/08/91 Test (Loca	tion 4) A	>1000 PSI	No failure	10% rusting
***************************************				
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Page 1

Set-Sample: 26 -9605A Comments:

A516-70 panel Materials: MARB 4

	0 4
1	2
!	3
[	

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
*********	Ambient drying		
03/19/91	Test (Location 1)	A	250 PSI (100% C)
04/15/91	Test (Location 2)	Α	150 PSI (100% C)
***************************************	Hardness	В	1000g medium scrape
04/15/91	1 hr @ 487 F	0	1 month late cure
04/15/91	40 hrs @ 115 F	Н	
04/17/991	1 hr @ -100 F	С	
04/17/91	2 hrs @ 650 F	0	
04/17/91	14 hrs @ 115 F	Н	
04/18/91	1 hr @ -100 F	С	
04/18/91	2 hrs @ 650 F	0	
04/18/91	17 hrs @ 120 F	Н	
04/19/91	1 hr @ -100 F	С	
04/19/91	1 hr @ 620 F	0	
04/19/91	18 hrs @ 120 F	Н	
04/20/91	1 hr @ -100 F	С	
04/20/91	2 hrs @ 650 F	0	
04/20/91	44 hrs @ 118 F	Н	•••••••••••••••••••••••••••••••••••••••

Set-Sample: 26 -9605A	Comments:	Page 2
04/22/91 1 hr @ -100	) F C	
04/22/91 1 hr @ 650	F 0	
04/22/91 15 hrs @ 11	15 F H	
04/23/91 1 hr @ -100	) F C	
04/23/91 3 hrs @ 780	) F 0	very hot
04/23/91 17 hrs @ 11	8 F H	very humid
04/24/91 1 hr @ -100	) F C	
04/24/91 4 hrs @ 650	) F 0	
04/25/91 1 hr @ -100	) F C	
04/25/91 3 hrs @ 630	) F 0	
04/27/91 Test (Locat	ion 3) A	>800 (98% C) No rusting
04/29/91 1 hr @ -100	F C	
04/29/91 3 hrs @ 650	F 0	
04/29/91 16 hrs @ 11	.8 F _H	wet panels before exposure
04/30/91 1 hr @ 480	F 0	
04/30/91 1 hr @ -100	) F C	
04/30/91 17 hrs @ 11	8 F 0	
05/01/91 1 hr @ -100	) F C	
05/01/91 3 hrs @ 790	) F 0	нот
05/02/91 3 hrs @ 750	) F 0	нот
05/02/91 18 hrs @ 11	7 F H	
05/03/91 3 hrs @ 690	) F 0	
05/03/91 64 hrs @ 12	:0 F Н	
05/06/91 3 hrs @ 690	) F 0	
05/06/91 1 hr @ -100	F C	
05/06/91 17 hrs @ 12	:0 F Н	

Set-Sample: 26 -9605A	Comments:	Page 3
05/07/91 1 hr @ -100 F	С	
05/07/91 3 hrs @ 650 F	0	
05/07/91 15 hrs @ 120 F	Н	
05/08/91 1 hr @ -100 F	С	
05/08/91 3 hrs @ 690 F	0	
05/09/91 l hr @ -100 F	С	
05/09/91 87 hrs @ 124 F	Н	
05/13/91 1 hr @ -100 F	С	
05/13/9I 2 hrs @ 650 F	0	
05/15/91 1 hr @ -100 F	С	autocycle
05/15/91 1 hr @ 600 F	С	autocycle
05/16/91 1 hr @ -100 F	С	
05/17/91 1 hr @ -100 F	С	autocycle
05/17/91 1 hr @ 600 F	С	autocycle
05/17/91 20 hrs @ 120 F	Н	
05/18/91 46 hrs @ 120-140	F H	
05/21/91 1 hr @ -100 F	С	
05/22/91 3 hrs @ 650 F	0	
05/24/91 4 hrs @ 680 F	0	
05/28/91 5 hrs @ 650 F	0	
05/28/91 16 hrs @ 120 F	Н	
05/29/91 4 hrs @ 650 F	0	
05/29/91 1 hr @ -100 F	С	
05/30/91 1 hr @ -100 F	С	
05/30/91 3 hrs @ 630 F	0	
05/30/91 17 hrs @ 120 F	Н	

Set-Sample	e: 26 -9605A	Comments:	Page 4
05/31/91	1 hr @ -100 F	С	
06/03/91	3 hrs @ 650 F	0	
06/03/91	22 hrs @ 140 F	Н	
06/04/91	66 hrs @ 120 F	Н	
06/12/91	5 hrs @ 600 F	0	
06/13/91	4 hrs @ 600 F	0	
06/13/91	1 hr @ -120 F	С	manual
06/13/91	40 hrs @ 120 F	Н	***************************************
06/15/91	2 hrs @ 600 F	0	***************************************
06/17/91	2 hrs @ 650 F	0	***************************************
06/17/91	1 hr @ -100 F	С	***************************************
06/17/91	18 hrs @ 120 F	Н	<b>*************************************</b>
06/18/91	5 hrs @ 650 F	0	76 events (-150 to 790 F)
- '	•	•	70 events (-150 to 750 1)
07/08/91	Test (Location		>1000 PSI 2% rusting
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Page 1

Set-Sample: 26 -9606A Comments:

A516-70 panel Materials: Sherwin Williams Spray Paint

1	4	2
		38

				30
Date	Action	Equip	Results/Comments	
03/06/91	Clean	-	Remove all mill scale w	ith 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, q	ick air dry
03/11/91	Coat	S	Spray entire panel	•
	Ambient drying		*****	
03/19/91	Test (Location 1)	A	200 PSI (100% C)	
04/15/91	Test (Location 2)	Α	200 PSI (100% C)	• • • • • • • • • • • • • • • • • • • •
	Hardness	В	600g medium scrape	• • • • • • • • • • • • • • • • • • • •
04/15/91	1 hr @ 487 F	0	1 month late cure	
04/15/91	40 hrs @ 115 F	Н		
04/17/991	1 hr @ -100 F	С		
04/17/91	2 hrs @ 650 F	0		
04/17/91	14 hrs @ 115 F	Н		• • • • • • • • • • • • • • • • • • • •
04/18/91	l hr @ -100 F	С		
04/18/91	2 hrs @ 650 F	0		
04/18/91	17 hrs @ 120 F	Н		
04/19/91	l hr @ -100 F	С		
04/19/91	1 hr @ 620 F	0		
04/19/91	18 hrs @ 120 F	Н	******************	
04/20/91	1 hr @ -100 F	C		
04/20/91	2 hrs @ 650 F	0		••••••••
04/20/91	44 hrs @ 118 F	Н		
*****	*********			

Page 2

Set-Sample: 26 -9606A Comments:

A516-70 panel Materials: SW paint spray

materials. Sw parite spray

	0	
1		2
1		3
		•

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Date	Action	Equip	Results/Comments
04/22/91	1 hr 0 -100 F	С	
04/22/91	1 hr @ 650 F	0	
04/22/91	15 hrs @ 115 F	Н	
04/23/91	1 hr @ -100 F	С	
04/23/91	3 hrs @ 780 F	0	very hot
04/23/91	17 hrs @ 118 F	Н	very humid
04/24/91	1 hr @ -100 F	С	
04/24/91	4 hrs @ 650 F	0	
04/25/91	l hr @ -100 F	С	
04/25/91	3 hrs @ 630 F	0	
04/27/91	Test (Location 3B)	Α	>900 no failure General rusting
04/29/91	1 hr @ -100 F	С	
04/29/91	3 hrs @ 650 F	0	
04/29/91	16 hrs @ 118 F	Н	wet panels before exposure
04/30/91	1 hr @ 480 F	0	
04/30/91	l hr @ -100 F	С	
04/30/91	17 hrs @ 118 F	0	
05/01/91	1 hr @ -100 F	С	
05/01/91	3 hrs @ 790 F	0	нот
05/02/91	3 hrs @ 750 F	0	нот
	***************************************	0 H	нот

Set-Sample: 26 -9606A	Comments:	Page 3
05/03/91 3 hrs @ 690 F	0	
05/03/91 64 hrs @ 120 F	Н	
05/06/91 3 hrs @ 690 F	0	
05/06/91 1 hr @ -100 F	С	
05/06/91 17 hrs @ 120 F	Н	
05/07/91 1 hr @ -100 F	С	
05/07/91 3 hrs @ 650 F	0	
05/07/91 15 hrs @ 120 F	Н	
05/08/91 1 hr @ -100 F	С	
05/08/91 3 hrs @ 690 F	0	
05/09/91 1 hr @ -100 F	С	
05/09/91 87 hrs @ 124 F	Н	
05/13/91 1 hr @ -100 F	С	
05/13/91 2 hrs @ 650 F	0	
05/15/91 1 hr @ -100 F	С	autocycle
05/15/91 1 hr @ 600 F	С	autocycle
05/16/91 1 hr @ -100 F	С	
05/17/91 1 hr @ -100 F	С	autocycle
05/17/91 1 hr @ 600 F	С	autocycle
05/17/91 20 hrs @ 120 F	Н	
05/18/91 46 hrs @ 120-140	F H	
05/21/91 1 hr @ -100 F	С	
05/22/91 3 hrs @ 650 F	0	
05/24/91 4 hrs @ 680 F	0	
****************	**********	

Page 4

Set-Sample: 26 -9606A Comments:

A516-70 panel Materials: Sherwin Williams Spray Paint

	0	
1		2
		3
		1

Date	Action	Equip	Results/Comments
05/28/91	5 hrs @ 650 F	0	
05/28/91	16 hrs @ 120 F	Н	
05/29/91	4 hrs @ 650 F	0	
05/29/91	1 hr 0 -100 F	С	
05/30/91	1 hr @ -100 F	С	
05/30/91	3 hrs @ 630 F	0	
05/30/91	17 hrs @ 120 F	Н	
05/31/91	1 hr @ -100 F	С	
06/03/91	3 hrs @ 650 F	0	
06/03/91	22 hrs @ 140 F	Н	
06/04/91	66 hrs @ 120 F	Н	
06/12/91	5 hrs @ 600 F	0	
06/13/91	4 hrs @ 600 F	0	
06/13/91	1 hr @ -120 F	С	manual
06/13/91	40 hrs @ 120 F	Н	*
06/15/91	2 hrs @ 600 F	0	
06/17/91	2 hrs @ 650 F	0	
06/17/91	1 hr @ -100 F	С	
06/17/91	18 hrs @ 120 F	Н	
06/18/91	5 hrs @ 650 F	0	76 events (-150 to 790 F) 80% rusting
07/01/91	Test (Location 4)	Α	900 PSI (48% C; 48% C/I; 2% rust; 2% F)

MRC Fabrication/Conditioning/Test Form 91-1 Page 1					
Set-Sample: 26A - 9607 Comments: MAZRB mils					
Materials:	MARB-4 with ZINC		0.9		
Equip Defi	nitions:		0.63		
			0.55		
Date	Action	Equip	Results/Comments		
03/24/91	MEK wipe	-	Clean sander-stripper prepared panel		
03/24/91	Coat	•	Brush on MAZRB		
03/24/91	1 hr @ 487 F	0	Cure		
03/25/91	1 hr @ -100 F	С			
03/25/91	17 hrs @ 140 F	Н			
03/26/91	1 hr @ -100 F	С			
03/26/91	1 hr @ 700 F	0	Very hot, dry		
03/27/91	2 hrs @ 650 F	0			
03/27/91	1 hr @ -100 F	С			
03/28/91	1 hr @ -100 F	С			
03/28/91	2 hr @ 650 F	0			
03/29/91	Test (Location 1)	Α	>1050 PSI Excellent condition 0.88 mils		
03/29/91	20 hrs @ 120 F	Н			
03/30/91	1 hr @ -100 F	С			
03/30/91	44 hrs @ 118 F	Н			
04/01/91	1 hr @ -100 F	С			
04/01/91	2 hrs @ 650 F	0			
04/01/91	20 hrs @ 120 F	Н			
04/02/91	1 hr 0 -100 F	С			
04/02/91	17 hrs @ 120 F	Н	1275.9 g (wet & dry)		
04/03/91	1 hr @ -100 F	С			

Cat_Camala		ments:	onditioning/Test Form 91-1 Steel	Page 2
-		ments:	20641	1 4
Materials:				3
Equip Defi	nitions:			2
Date	Action	Equip	Results/Comments	
04/03/91	17 hrs @ 120 F	Н		
04/04/91	1 hr 0 -150 F	С	manual	
04/04/91	2 hrs @ 650 F	0		
04/04/91	20 hrs @ 120 F	Н		
04/05/91	1 hr @ -100 F	C		
04/05/91	1 hr @ 650 F	0		
04/06/91	Test (Location 2)	A	600 PSI (60% d; 40% F/C	)
04/06/91	41 hrs @ 120 F	Н		
04/08/91	2 hrs @ 650 F	0		
04/08/91	1 hr @ -100 F	С		
04/08/91	40 hrs @ 120 F	Н		
04/10/91	1 hr @ -100 F	C		
04/10/91	2 hrs @ 650 F	0		
04/11/91	4 hrs @ 650 F	0		
04/11/91	14 hrs @ 150 F	Н		
04/12/91	1 hr @ -100 F	C		
04/12/91	65 hrs @ 120 F	Н		
04/15/91	1 hr @ -100 F	С	•	
04/15/91	40 hrs @ 115 F	Н		
04/17/91	1 hr @ -100 F	C		
04/17/01	0 has 0 CFO F			

04/17/91 2 hrs @ 650 F 0

Page 3

Set-Sample: 26A - 9607 Comments: MAZRB

Materials: MARB-4 with ZINC

1	4	
		3 2

Date	Action	Equip	Results/Comments	
04/17/91	14 hrs @ 115 F	Н		
04/18/91	1 hr @ -100 F	С		
04/18/91	2 hrs @ 650 F	0		
04/18/91	17 hrs @ 120 F	Н		
04/19/91	1 hr @ -100 F	С		
04/19/91	1 hr @ 620 F	0		
04/19/91	18 hrs @ 120 F	Н		
04/20/91	1 hr @ -100 F	С		
04/20/91	2 hrs 0 650 F	0	***************************************	
04/20/91	44 hrs @ 118 F	Н		
04/22/91	1 hr @ -100 F	С		
04/22/91	1 hr @ 650 F	0		
04/22/91	15 hrs @ 115 F	Н		
04/23/91	1 hr @ -100 F	С		
04/23/91	3 hrs 0 780 F	0	very hot	
04/23/91	17 hrs @ 118 F	Н	very humid	
04/24/91	1 hr @ -100 F	С	· · · · · · · · · · · · · · · · · · ·	
04/24/91	4 hrs @ 650 F	0	*********	
04/25/91	1 hr @ -100 F	С	• • • • • • • • • • • • • • • • • • •	•••••
04/25/91	3 hrs @ 630 F	0	Excellent condition except who	ere thick at top
04/27/91	Test (Location 3)	A	500 PSI (100% C) edge rust/0	racking top

	MRC Fabric	ation/Co	onditioning/Test Form	91-1			Page	4
Set-Sample	: 26A - 9607 Comme	nts: MAZ	RB	mils 0.9	1	4		
Materials:	MARB-4 with ZINC			0.63	•	7	3	
Equip Defi	nitions:			0.55			2	
Date	Action	Equip	Results/Comments	0.55				
04/29/91	1 hr @ -100 F	C	result cs/ comments					
04/29/91	3 hrs @ 650 F	 0						
04/29/91	16 hrs @ 118 F	 H						
04/30/91	1 hr @ 480 F	'' 0						
04/30/91	1 hr @ -100 F							
		C 						
04/30/91	17 hrs @ 118 F	H 				·		
05/01/91	1 hr @ -100 F	C 	UAT			<b>-</b>		
05/01/91	3 hrs @ 790 F	0 	HOT					
05/02/91	3 hrs @ 750 F	0 	нот				<b></b>	
05/02/91	18 hrs @ 117 F	H 						
05/03/91	3 hrs @ 690 F	0						
05/03/91	64 hrs @ 120 F	H 						
05/06/91	3 hrs @ 690 F	0						
05/06/91	1 hr @ -100 F	C 						
05/06/91	17 hrs @ 120 F	H 						
06/07/91	1 hr @ -100 F	C						
05/07/91	3 hrs @ 650 F	0						
05/07/91	15 hrs @ 120 F	H						
05/08/91	1 hr @ -100 F	C				<i>-</i>		
05/08/91	3 hrs @ 690 F	0						
05/09/91	1 hr @ -100 F	С						

#### Page 5 MRC Fabrication/Conditioning/Test Form 91-1 Set-Sample: 26A - 9607 Comments: A516 Steel Materials: MAZRB 3 2 Equip Definitions: Date Action Equip Results/Comments 87 hrs @ 124 F 05/09/91 н 05/13/91 1 hr @ -100 F C 05/13/91 2 hrs @ 650 F 0 05/15/91 1 hr @ -100 F 05/15/91 1 hr @ 600 F C 05/16/91 1 hr @ -100 F 05/17/91 1 hr @ -100 F C 05/17/91 1 hr @ 600 F 05/17/91 20 hrs @ 120 F 05/18/91 46 hrs @ 120-140 F 05/21/91 1 hr @ -100 F 05/22/91 3 hrs @ 650 F 05/24/91 4 hrs 0 680 F 05/28/91 5 hrs @ 650 F 05/28/91 16 hrs @ 120 F 05/29/91 4 hrs @ 650 F 05/29/91 1 hr @ -100 F 05/30/91 1 hr @ -100 F 05/30/91 3 hrs @ 630 F 05/30/91 17 hrs @ 120 F

05/31/91 1 hr @ -100 F

D	20	Δ	6
	ao		ח

Set-Sample	: 26A - 9607	Comments:	Steel	1 4
Materials:	MAZRB			3
Equip Defi	nitions:			2
Date	Action	Equip	Results/Comments	
06/03/91	3 hrs @ 650 F	0		
06/03/91	22 hrs @ 140 F	Н		
06/04/91	66 hrs @ 120 F	Н		
06/12/91	5 hrs @ 600 F	0		
06/13/91	4 hrs @ 600 F	0		
06/13/91	1 hr @ -120 F	С	manual	
06/13/91	40 hrs @ 120 F	Н		
06/15/91	2 hrs @ 600 F	0		
06/17/91	2 hrs @ 650 F	0		
06/17/91	1 hr @ -100 F	С		
06/17/91	18 hrs @ 120 F	Н		
06/18/91	5 hrs @ 650 F	0	0.5-0.7	mils
06/20/91	Pictures 10	l events (-	150 to 790 F) Excelle	nt Condition
07/08/91	Test (Location	4) A	950 PSI (100% C) 0.	5% F

	MRC Fabri	cation/Cond	iitioning/Test Form	91-1 Page 1
Set-Sample	: 26A - 9608 Comm	ments: MAZRI	3	mils 0.45   1 4
Materials:	MARB with Zinc and	Aluminum		0.45
Equip Defi	nitions:			0.37
Date	Action	Equip	Results/Comments	
03/24/91	MEK wipe			oper prepared panel
03/24/91	Coat	-	Brush on MAZRB	
03/24/91	1 hr @ 487 F	0	Cure	
03/25/91	1 hr @ -100 F	С		,
03/25/91	17 hrs @ 140 F	Н		
03/26/91	1 hr 0 -100 F	С	• • • • • • • • • • • • • • • • • • • •	,
03/26/91	1 hr @ 700 F	0	Very hot, dry	
03/27/91	2 hrs @ 650 F	0		
03/27/91	1 hr @ -100 F	С		
03/28/91	1 hr @ -100 F	С		
03/28/91	2 hrs @ 650 F	0		
03/29/91	Test (Location 1)	Α	>1050 PSI Excelle	ent condition 0.8 mils
03/29/91	22 hrs @ 125 F	H		
03/30/91	1 hr @ -100 F	С		
03/30/91	44 hrs @ 118 F	Н		
04/01/91	1 hr 0 -100 F	С		
04/01/91	2 hrs @ 650 F	0		
04/01/91	20 hrs @ 120 F	Н		
04/02/91	1 hr @ -100 F	С		
04/02/91	17 hrs @ 120 F	Н	1279.8 g (1279.7 g (	iry)
04/03/91	1 hr @ -100 F	С		

	MRC Fab	rication/C	conditioning/Test Form 91-1	Page 2
Set-Sample	e: 26A - 9608 Cor	mments:	Steel	
Materials:	MAZRB		1	4 3
Equip Defi	nitions:			2
Date	Action	Equip	Results/Comments	
04/03/91	17 hrs @ 120 F	Н		
04/04/91	1 hr @ -150 F	С	manual	
04/04/91	2 hrs @ 650 F	0		
04/04/91	20 hrs @ 120 F	Н		
04/05/91	1 hr @ -100 F	С		
04/05/91	1 hr @ 650 F	0		
04/06/91	Test (Location 2)	Α	600 PSI (60% d; 40% F/C)	
04/06/91	41 hrs @ 120 F	Н		
04/08/91	2 hrs @ 650 F	0		
04/08/91	1 hr @ -100 F	C		
04/08/91	40 hrs @ 120 F	Н		
04/10/91	1 hr @ -100 F	C	***************************************	
04/10/91	2 hrs @ 650 F	0		••••
04/11/91	4 hrs @ 650 F	0		
04/11/91	14 hrs @ 150 F	Н		
04/12/91	1 hr @ -100 F	С		
04/12/91	65 hrs @ 120 F	Н		• • • • • • • • • • • • • • • • • • • •
04/15/91	1 hr @ -100 F	С		
04/15/91	40 hrs @ 115 F	Н		
04/17/91	1 hr @ -100 F	С		•======
04/17/91	2 hrs @ 650 F	0		• • • • • • • • • • • • • • • • • • • •

Set-Sample:	26A	-	9608	Comments:	MAZRB
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Materials: MARB-4 with ZINC

*********			
Date	Action	Equip	Results/Comments
04/17/91	14 hrs 0 115 F	Н	
04/18/91	1 hr @ -100 F	С	
04/18/91	2 hrs @ 650 F	0	
04/18/91	17 hrs @ 120 F	Н	
04/19/91	1 hr 0 -100 F	С	
04/19/91	1 hr @ 620 F	0	
04/19/91	18 hrs @ 120 F	Н	
04/20/91	1 hr 0 -100 F	С	
04/20/91	2 hrs @ 650 F	0	
04/20/91	44 hrs @ 118 F	Н	
04/22/91	1 hr @ -100 F	С	
04/22/91	1 hr @ 650 F	0	
04/22/91	15 hrs @ 115 F	Н	
04/23/91	1 hr @ -100 F	С	
04/23/91	3 hrs @ 780 F	0	very hot
04/23/91	17 hrs @ 118 F	Н	very humid
04/24/91	1 hr @ -100 F	С	
04/24/91	4 hrs @ 650 F	0	
04/25/91	1 hr 0 -100 F	С	
04/25/91	3 hrs 0 630 F	0	Event 56 some edge rusting
04/29/91	Test (Location 3)	A	>800 PSI (99% C) some edge rust

	MRC F	abrication/Co	nditioning/Test Form	B 91-1	Page 4
Set-Sample	e: 26A - 9608	Comments: MAZ	RB	mils	
Materials:	MARB with Zinc	and Aluminum		0.45	1 4 3
Equip Defi	nitions:			0.45	2
D. 4		*************	0 1 4	0.37	
Date	Action	Equip	Results/Comments		
04/29/91	1 hr @ -100 F	C			
04/29/91	3 hrs @ 650 F	0			
04/29/91	16 hrs @ 118 F	Н			
04/30/91	1 hr @ 480 F	0			*************
04/30/91	1 hr @ -100 F	С			
04/30/91	17 hrs @ 118 F	Н			
05/01/91	1 hr @ -100 F	С			
05/01/91	3 hrs @ 790 F	0	нот		
05/02/91	3 hrs @ 750 F	0	нот		
05/02/91	18 hrs @ 117 F	Н			
05/03/91	3 hrs @ 690 F	0			
05/03/91	64 hrs @ 120 F	Н			
05/06/91	3 hrs @ 690 F	0			
05/06/91	1 hr @ -100 F	С			
05/06/91	17 hrs @ 120 F	Н			
06/07/91	1 hr @ -100 F	C			
05/07/91	3 hrs @ 650 F	0			
05/07/91	15 hrs @ 120 F	Н			
05/08/91	1 hr @ -100 F	C			
05/08/91	3 hrs @ 690 F	0			
05/09/91	1 hr 0 -100 F	с			
	- III A -100 L				

#### MRC Fabrication/Conditioning/Test Form 91-1 Page 5 Set-Sample: 26A - 9608 Comments: MAZRB Materials: MARB-4 with ZINC 3 Equip Definitions: 2 Date Action Results/Comments Equip 05/09/91 87 hrs @ 124 F 1 hr @ -100 F 05/13/91 Ç 05/13/91 2 hrs @ 650 F 0 05/15/91 1 hr @ -100 F С 1 hr @ 600 F 05/15/91 C 1 hr @ -100 F 05/16/91 C 05/17/91 1 hr @ -100 F C 05/17/91 1 hr @ 600 F C 05/17/91 20 hrs @ 120 F H 05/18/91 46 hrs @ 120-140 F H 05/21/91 1 hr @ -100 F C 05/22/91 3 hrs @ 650 F 0 05/24/91 4 hrs @ 680 F 0 05/28/91 5 hrs @ 650 F 0 05/28/91 16 hrs @ 120 F 0 05/29/91 4 hrs @ 650 F 0 05/29/91 1 hr @ -100 F C 05/30/91 1 hr @ -100 F 05/30/91 3 hrs @ 630 F 05/30/91 17 hrs @ 120 F 05/31/91 1 hr @ -100 F

	MRC Fabri	cation/Co	onditioning/Test Form 91-1	Page 6
Set-Sample	e: 26A - 9608 Comm	ents: MAZ		<del></del>
Materials:	: MARB-4 with ZINC			4 3
Equip Defi	initions:			2
Date	Action	Equip	Results/Comments	
06/03/91	3 hrs @ 650 F	0		
06/03/91	22 hrs @ 140 F	Н		
06/04/91	66 hrs @ 120 F	Н		
06/12/91	5 hrs @ 600 F	0		
06/13/91	4 hrs 0 600 F	0		
06/13/91	1 hr @ -120 F	С	manual	
06/13/91	40 hrs @ 120 F	Н		
06/15/91	2 hrs @ 600 F	0		
06/17/91	2 hrs @ 650 F	0		
06/17/91	1 hr @ -100 F	С		
06/17/91	18 hrs @ 120 F	Н	•	
06/18/91	5 hrs @ 650 F	0	0.6 mils	
06/20/91	Pictures 101 ev	ents (-15	50 to 790 F) Excellent condition	, very clean
07/08/91	Test (Location 4)	Α	950 PSI (100% C) 0.5% F	
			Some rusting on edges and thin	coated area
			· · · · · · · · · · · · · · · · · · ·	
	• • • • • • • • • • • • • • • • • • • •			
*********			••••••••••••	
********	••••••			
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	MRC Fabrica	tion/Cond	itioning/Test Fo <del>rm</del>	91-1 Page 1
Set-Sample	: 26B - 9611 Commen	ts: MAZRB	1-4 coats	mils 0.5
Materials:	MARB-4 with ZINC			0.70 4 2
Equip Defi	nitions:			0.75 5 3
Date	Action	Equip	Results/Comments	1.00  _1
04/04/91	Clean	-	Clean sander-stri	pper prepared panel
04/04/91	Clean	-	No rust evident u	nder coating/ repair
	****************	-	formerly 9525/951	2 SH
04/04/91	Clean	-	Tape remove and M	EK wipe
04/04/91	Coat	(1/2 hr d	ry between the bru	sh coats 1, 2, 3, and 4)
04/04/91	Dry	-	Ambient dry overn	ight 18 hours
04/05/91	1 hr @ 480 F (250 C)	0	slow cure	
04/05/91	1 hr @ 650 F	0		
04/06/91	Test (Location 1)	A 5	50 PSI (100% C)	(1 coat)
04/06/91	Test (Location 2)	A >	1000 PSI no failu	re (3 coats)
04/06/91	41 hrs @ 120 F	Н		
04/08/91	2 hrs 0 650 F	0		
04/08/91	1 hr 0 -100 F	С		
04/08/91	40 hrs 0.120 F	Н		
04/10/91	1 hr @ -100 F	С		
04/10/91	2 hrs 0 650 F	0		
04/11/91	4 hrs 0 650 F	0		
04/11/91	14 hrs 0 150 F	Н		
04/12/91	1 hr @ -100 F	С		
04/12/91	65 hrs 0 120 F	Н		
04/15/91	1 hr 0 -100 F	С		

	MRC Fabr	ication/Co	nditioning/Test Form 91-1	Page 2
Set-Samp1	e: 26B - 9611 Com	ments:	1	
Materials	: MAZRB 1-4 coats			
Equip Def	initions:			
Date	Action	Equip	Results/Comments	
04/15/91	40 hrs @ 115 F	Н	*	
04/17/91	1 hr @ -100 F	С		
04/17/91	2 hrs @ 650 F	0	***************************************	
04/17/91	14 hrs @ 115 F	Н	************************	
04/18/91	1 hr @ -100 F	С		
04/18/91	2 hrs @ 650 F	0		
04/18/91	17 hrs @ 120 F	Н	•••••••	
04/19/91	1 hr @ -100 F	С		
04/19/91	1 hrs @ 620 F	0		
04/19/91	18 hrs @ 120 F	Н		
04/20/91	1 hr @ -100 F	С		
04/20/91	2 hrs @ 650 F	0		
04/20/91	44 hrs 0 118 F	Н		
04/22/91	1 hr @ -100 F	С		
04/22/91	1 hr @ 650 F	0		
04/22/91	15 hrs @ 115 F	Н		
04/23/91	l hr @ -100 F	С		
04/23/91	3 hrs @ 780 F	0	very HOT	
04/23/91	17 hrs @ 118 F	Н	very humid	
04/24/91	1 hr @ -100 F	С		
04/24/91	4 hrs 0 650 F	0	•	

	MRC Fabric	ation/Co	onditi	oning	/Test Fo	rm 91-1		Page	3
Set-Sample	e: 268 - 9611 Comme	ents: MAZ	ZRB				1		I
Materials:	MARB-4 with ZINC 1-	4 coats							
Equip Defi	nitions:								
Date	Action	Equip	Re	 sults	/Comment	 S	l		
04/25/91	1 hr @ -100 F	С							
04/25/91	3 hrs @ 630 F	0			,				
04/29/91	Test (Location 3)	A	>900	PSI	(90% C;	10% A)	Clean,	rough	
04/29/91	Test (Location 4)	Α	>900	PSI	no fail	ure			
04/29/91	1 hr 0 -100 F	С							
04/29/91	3 hrs @ 650 F	0			*******				
04/29/91	16 hrs @ 118 F	Н							
04/30/91	1 hr @ 480 F	0							
04/30/91	1 hrs @ -100 F	С							
04/30/91	17 hrs @ 118 F	Н		••••	•••••				
05/01/91	1 hr @ -100 F	С							
05/01/91	3 hrs @ 790 F	0	нот	••••					
05/02/91	3 hrs @ 750 F	0	нот						
05/02/91	18 hrs @ 117 F	Н							
05/03/91	3 hrs @ 690 F	0							
05/03/91	64 hrs @ 120 F	Н							
05/06/91	3 hrs @ 690 F	0							
05/06/91	1 hr @ -100 F	С							
05/06/91	17 hrs @ 120 F	Н							
06/07/91	1 hr 0 -100 F	С							
05/07/91	3 hrs @ 650 F	0 .							
								· ·	

	MRC Fabi	rication/Cond	iitioning/Test Form 91-1	Page 4
Set-Sample	e: 26B - 9611 Com	nments: MAZRI	3	
Materials:	MARB-4 with ZINC	1-4 coats		
Equip Defi	nitions:			
Date	Action	Equip	Results/Comments	
05/07/91	15 hrs @ 120 F	Н		
05/08/91	1 hr @ -100 F	С		
05/08/91	3 hrs @ 690 F	0		
05/09/91	1 hr @ -100 F	С		
05/09/91	87 hrs @ 124 F	Н		
05/13/91	1 hr @ -100 F	С		
05/13/91	2 hrs @ 650 F	0		
05/15/91	1 hr @ -100 F	C		
05/15/91	1 hr @ 600 F	C .		
05/16/91	1 hr @ -100 F	С		
05/17/91	1 hr @ -100 F	С		
05/17/91	1 hr @ 600 F	С	***********	
05/17/91	20 hrs @ 120 F	Н		
05/18/91	46 hrs @ 120-140	F 14		
05/21/91	1 hr ? -100 F	С		
05/22/91	3 hrs @ 650 F	0		
05/24/91	4 hrs @ 680 F	Û		
05/28/91	5 hrs @ 650 F	0		
05/28/91	16 hrs @ 120 F	0		
05/29/91	4 hrs @ 650 F	0	•••••••	
05/29/91	1 hr @ -100 F	C		

	MRC Fabr	ication/Con	iitioning/Test Form 91-	l Page 5
Set-Sample	e: 26B - 9611 Com	ments: MAZRI	3	
Materials:	MARB-4 with ZINC	1-4 coats		
Equip Defi	nitions:			
Date	Action	Equip	Results/Comments	
05/30/91	1 hr @ -100 F	С		
05/30/91	3 hrs @ 630 F	0		
05/30/91	17 hrs @ 120 F	Н	• • • • • • • • • • • • • • • • • • • •	
05/31/91	1 hr @ -100 F	С	• • • • • • • • • • • • • • • • • • • •	••••••
06/03/91	3 hrs @ 650 F	0		
06/03/91	22 hrs @ 140 F	Н		
06/04/91	66 hrs @ 120 F	Н		
06/12/91	5 hrs 0 600 F	0		
06/13/91	4 hrs @ 600 F	0		
06/13/91	1 hr @ -120 F	C r	nanual	
06/13/91	40 hs @ 120 F	Н		
06/15/91	2 hrs @ 600 F	0		
06/17/91	2 hrs @ 650 F	0		
06/17/91	1 hr @ -100 F	С		
06/17/91	18 hrs @ 120 F	Н		
06/18/91	5 hrs @ 650 F	0		
06/20/91	Pictures 88 ev	ents (-120	to 790 F) Excellent (	condition
07/08/91	Test (Location 5)	A	250 PSI (85% C; 15% C	/I) No rust

	MRC Fabrica	tion/Cond	itioning/Test Form 91-1 Page 1
Set-Sample	: 268 - 9612 Commen	ts: MAZRB	1-4 coats mils
Materials:	MARB-4 with ZINC	•	0.5
Equip Defi	nitions:		$\begin{bmatrix} 0.70 \\ 0.75 \end{bmatrix} \begin{bmatrix} -1 \\ & 5 \end{bmatrix}$
			1.003_
Date	Action	Equip	Results/Comments
04/04/91	Clean	-	Clean sander-stripper prepared panel
04/04/91	Clean	-	No rust evident under coating/ repair
		•	formerly 9525/9512 SH
04/04/91	Clean	-	Tape remove and MEK wipe
04/04/91	Coat	(1/2 hr d	ry between the brush coats 1, 2, 3, and 4)
04/04/91	Dry	-	Ambient dry overnight 18 hours
04/05/91	1 hr @ 480 F (250 C)	0	slow cure
04/05/91	1 hr @ 650 F	0	
04/06/91	Test (Location 1)	A 5	50 PSI (100% C) (2 coats)
04/06/91	Test (Location 2)	A >	1000 PSI no failure (3 coats)
04/06/91	41 hrs @ 120 F	Н	
04/08/91	2 hrs @ 650 F	0	
04/08/91	1 hr @ -100 F	С	
04/08/91	40 hrs @ 120 F	Н	
04/10/91	1 hr @ -100 F	С	
04/10/91	2 hrs @ 650 F	0	
04/11/91	4 hrs @ 650 F	0	
04/11/91	14 hrs @ 150 F	Н	
04/12/91	1 hr @ -100 F	С	
04/12/91	65 hrs @ 120 F	Н	
04/15/91	1 hr 0 -100 F	С	

	MRC Fabric	cation/Co	onditioning/Test Form 91-1	Page 2
Set-Sample	e: 26B - 9612 Comme	ents:	1	
Materials:	MAZRB with Zinc			
Equip Defi	nitions:			
Date	Action	Equip	Results/Comments	
04/15/91	40 hrs @ 115 F	Н		
04/17/91	1 hr @ -100 F	С		
04/17/91	2 hrs @ 650 F	0		
04/17/91	14 hrs @ 115 F	Н	*****	
04/18/91	1 hr @ -100 F	С	*****	
04/18/91	2 hrs @ 650 F	0		
04/18/91	17 hrs @ 120 F	Н		
04/19/91	1 hr @ -100 F	С		************
04/19/91	1 hrs @ 620 F	0		
04/19/91	18 hrs @ 120 F	Н		***************
04/20/91	1 hr @ -100 F	С		**************
04/20/91	2 hrs @ 650 F	0		
04/20/91	44 hrs @ 118 F	Н		*************
04/22/91	1 hr @ -100 F	С		
04/22/91	1 hr @ 650 F	0		****************
04/22/91	15 hrs @ 115 F	Н		
04/23/91	1 hr @ -100 F	С		************
04/23/91	3 hrs @ 780 F	0	very HOT	
04/23/91	17 hrs @ 118 F	Н	very humid	
04/24/91	1 hr @ -100 F	C		
04/24/91	4 hrs @ 650 F	0		

Set-Sample: 268 - 9612 C	omments: MAZRB
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Materials: MAR8-4 with ZINC

Equip Def	initions:		
Date	Action	Equip	Results/Comments
04/25/91	1 hr @ -100 F	С	
04/25/91	3 hrs @ 630 F	0	
04/29/91	Test (Location 3)	Α	>900 PSI (90% C; 10% A) Clean, rough
04/29/91	Test (Location 4)	A	>900 PSI no failure
04/29/91	1 hr @ -100 F	С	
04/29/91	3 hrs @ 650 F	0	
04/29/91	16 hrs @ 118 F	Н	
04/30/91	1 hr @ 480 F	0	
04/30/91	1 hrs @ -100 F	C	
04/30/91	17 hrs @ 118 F	H	
05/01/91	1 hr @ -100 F	С	
05/01/91	3 hrs @ 790 F	0	нот
05/02/91	3 hrs @ 750 F	0	нот
05/02/91	18 hrs @ 117 F	Н	
05/03/91	3 hrs @ 690 F	0	
05/03/91	64 hrs @ 120 F	H	
05/06/91	3 hrs @ 690 F	0	
05/06/91	1 hr 0 -100 F	С	
05/06/91	17 hrs @ 120 F	Н	
06/07/91	1 hr @ -100 F	С	
05/07/91	3 hrs 0 650 F	0	

	MRC Fabric	cation/Cor	nditioning/Test Form 91-1	Page 4
Set-Sample	e: 26B - 9612 Comme	ents: MAZF	RB ,	
Materials:	: MARB-4 with ZINC			
Equip Def	initions:			
Date	Action	Equip	Results/Comments	
05/07/91	15 hrs @ 120 F	Н		***************************************
05/08/91	1 hr @ -100 F	С		
05/08/91	3 hrs @ 690 F	0		
05/09/91	1 hr @ -100 F	С		••••••
05/09/91	87 hrs @ 124 F	Н		
05/13/91	1 hr @ -100 F	С		
05/13/91	2 hrs @ 650 F	0		*********
05/15/91	1 hr @ -100 F	С		••••••
05/15/91	1 hr @ 600 F	С		
05/16/91	1 hr @ -100 F	С		, 4 = = = = + 4 = = +
05/17/91	1 hr @ -100 F	С		
05/17/91	1 hr @ 600 F	С		
05/17/91	20 hrs @ 120 F	Н	·	
05/18/91	46 hrs @ 120-140 F	Н		
05/21/91	1 hr @ -100 F	С		
05/22/91	3 hrs @ 650 F	0		
05/24/91	4 hrs @ 680 F	0		
05/28/91	5 hrs @ 650 F	0		••••••••
05/28/91	16 hrs @ 120 F	0		
05/29/91	4 hrs @ 650 F	0		•
05/29/91	1 hr @ -100 F	С		

Set-Sample: 26B - 9612 Comments: MAZRB

Materials: MARB-4 with ZINC

Date	Action	Equip	Results/Comments	1
05/30/91	1 hr @ -100 F	С		
05/30/91	3 hrs @ 630 F	0		
05/30/91	17 hrs @ 120 F	Н		
05/31/91	1 hr @ -100 F	С		
06/03/91	3 hrs @ 650 F	0		
06/03/91	22 hrs @ 140 F	Н		
06/04/91	66 hrs @ 120 F	Н		
06/12/91	5 hrs @ 600 F	0		
06/13/91	4 hrs @ 600 F	0		
06/13/91	1 hr @ -120 F	С	manual	
06/13/91	40 hs @ 120 F	Н		
06/15/91	2 hrs @ 600 F	0		
06/17/91	2 hrs @ 650 F	0		
06/17/91	1 hr @ -100 F	С		
06/17/91	18 hrs @ 120 F	Н		
06/18/91	5 hrs @ 650 F	0		
06/20/91	Pictures 88 ev	ents (-12	o to 790 F) Exceller	nt condition
07/08/91	Test (Location 5)	A	300 PSI (90% C; 8%	C; 2% Rust)

	MRC Fabrica	tion/Cond	itioning/Test Form	91-1 Page 1
Set-Sample	: 26B - 9613 Commen	ts: MAZRB	1-4 coats	mils 0.5
Materials:	MARB-4 with ZINC			
Equip Defi	nitions:			0.70   25_ 0.75   3
Date	Action	 Equip	Results/Comments	1.004_
04/04/91	Clean	-	Clean sander-stri	pper prepared panel
04/04/91	Clean	-	No rust evident u	nder coating/ repair
		-	formerly 9525/951	2 SH
04/04/91	Clean	-	Tape remove and MI	EK wipe
04/04/91	Coat	(1/2 hr di	ry between the bru	sh coats 1, 2, 3, and 4)
04/04/91	Dry	-	Ambient dry overn	ight 18 hours
04/05/91	1 hr @ 480 F (250 C)	0	slow cure	
04/05/91	1 hr @ 650 F	0		
04/06/91	Test (Location 1)	A 5	50 PSI (100% C)	(1 coats)
04/06/91	Test (Location 2)	A >	1000 PSI no failu	re (2 coats)
04/06/91	41 hrs @ 120 F	Н		
04/08/91	2 hrs @ 650 F	0		
04/08/91	1 hr @ -100 F	С		
04/08/91	40 hrs @ 120 F	Н		
04/10/91	1 hr @ -100 F	С		
04/10/91	2 hrs @ 650 F	0		
04/11/91	4 hrs @ 650 F	0		
04/11/91	14 hrs @ 150 F	H		
04/12/91	1 hr @ -100 F	С		
04/12/91	65 hrs @ 120 F	Н		
04/15/91	1 hr @ -100 F	C		

	MRC Fabric	cation/Co	onditioning/Test Form 91-1	Page 2
Set-Sample	e: 26B - 9613 Comme	ents:	1	
Materials:	MAZRB 1-4 coats			
Equip Defi	initions:			
Date	Action	Equip	Results/Comments	
04/15/91	40 hrs @ 115 F	Н		
04/17/91	1 hr @ -100 F	С		
04/17/91	2 hrs @ 650 F	0		
04/17/91	14 hrs @ 115 F	Н		
04/18/91	1 hr @ -100 F	С		
04/18/91	2 hrs @ 650 F	0		
04/18/91	17 hrs @ 120 F	Н		
04/19/91	1 hr @ -100 F	С		
04/19/91	1 hrs @ 620 F	0		
04/19/91	18 hrs @ 120 F	Н		
04/20/91	1 hr @ -100 F	С		
04/20/91	2 hrs @ 650 F	0		
04/20/91	44 hrs @ 118 F	Н		
04/22/91	1 hr @ -100 F	С		************
04/22/91	1 hr 0 650 F	0		
04/22/91	15 hrs @ 115 F	Н		
04/23/91	1 hr @ -100 F	С		
04/23/91	3 hrs @ 780 F	0	very HOT	***********
04/23/91	17 hrs 0 118 F	Н	very humid	*******
04/24/91	1 hr @ -100 F	С		
04/24/91	4 hrs 0 650 F	0		

Page 3

Set-Sample:	268 -	9613	Comments:	MAZRB

Materials: MARB-4 with ZINC 1-4 coats

3	
4	

					4	
Date	Action	Equip	Results	/Comments	[	J
04/25/91	1 hr @ -100 F	С				
04/25/91	3 hrs @ 630 F	0				
04/29/91	Test (Location 3)	A	>900 PSI	(90% C; 10% A)	Clean, rough	
04/29/91	Test (Location 4)	A	>900 PSI	no failure	4 coats	
04/29/91	1 hr @ -100 F	С			,	
04/29/91	3 hrs @ 650 F	0				
04/29/91	16 hrs @ 118 F	Н				
04/30/91	1 hr @ 480 F	0				
04/30/91	1 hrs @ -100 F	C		***************************************		
04/30/91	17 hrs @ 118 F	Н				
05/01/91	1 hr @ -100 F	С				
05/01/91	3 hrs @ 790 F	0	нот			
05/02/91	3 hrs @ 750 F	0	нот			
05/02/91	18 hrs @ 117 F	Н			, * • • • • • • • • • • • • • • • • • •	
05/03/91	3 hrs @ 690 F	0				
05/03/91	64 hrs @ 120 F	Н		***************************************		
05/06/91	3 hrs @ 690 F	0		***********	1	
05/06/91	1 hr 0 -100 F	С		*************		
05/06/91	17 hrs @ 120 F	Н		***********		
06/07/91	1 hr @ -100 F	С		*********		
05/07/91	3 hrs @ 650 F	0		***********		
	••••••••					

#### Page 4 MRC Fabrication/Conditioning/Test Form 91-1 Set-Sample: 26B - 9613 Comments: MAZRB Materials: MARB-4 with ZINC 1-4 coats Equip Definitions: Results/Comments Date Action Eguip 05/07/91 15 hrs @ 120 F H 05/08/91 1 hr @ -100 F 05/08/91 3 hrs @ 690 F 05/09/91 1 hr @ -100 F 05/09/91 87 hrs @ 124 F 05/13/91 1 hr @ -100 F 05/13/91 2 hrs @ 650 F 05/15/91 1 hr @ -100 F 05/15/91 1 hr @ 600 F 05/16/91 1 hr @ -100 F С 05/17/91 1 hr @ -100 F C 05/17/91 1 hr @ 600 F C 05/17/91 20 hrs @ 120 F Н 05/18/91 46 hrs @ 120-140 F 05/21/91 1 hr @ -100 F 05/22/91 3 hrs @ 650 F 05/24/91 4 hrs @ 680 F 05/28/91 5 hrs 9 650 F 05/28/91 16 hrs @ 120 F 0 05/29/91 4 hrs @ 650 F 0

C

05/29/91 1 hr @ -100 F

	MRC Fab	rication/Cond	iitioning/Test Form 91-1		Page 5
Set-Sample	e: 26B - 9613 Co	mments: MAZRE	3	1	<del></del> -
Materials:	MARB-4 with ZINC	1-4 coats		2	5
Equip Defi	nitions:				3 4
Date	Action	Equip	Results/Comments	l	
05/30/91	1 hr @ -100 F	С			
05/30/91	3 hrs @ 630 F	0			
05/30/91	17 hrs @ 120 F	Н			
05/31/91	1 hr @ -100 F	С			
06/03/91	3 hrs @ 650 F	0			
06/03/91	22 hrs @ 140 F	Н			
06/04/91	66 hrs @ 120 F	Н			
06/12/91	5 hrs @ 600 F	0			
06/13/91	4 hrs @ 600 F	0			
06/13/91	l hr @ -120 F	C n	nanual		
06/13/91	40 hs @ 120 F	Н			
06/15/91	2 hrs @ 600 F	0			
06/17/91	2 hrs @ 650 F	0			• • • • • • • • • • • • • • • • • • • •
06/17/91	1 hr @ -100 F	С	•••••••••		
06/17/91	18 hrs @ 120 F	Н			
06/18/91	5 hrs @ 650 F	0			
06/20/91	Pictures 88 e	vents (-120	to 790 F) Excellent c	ondition	
07/08/91	Test (Location 5)	Α !	550 PSI (90% C/I; 8% C;	2% rust)	2 coats
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
*********					

Page 1

#### MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26R - 9621 Comments: A-203 steel Rusting

Materials: No coating - for rusting and gel temperature tests

Equip Det	finitions:		
Date	Action	Equip	Results/Comments
03/25/91	MEK wash	-	Removes grease from mill-scale
03/25/91	Aqua regia clean	-	Acid remove mill scale both sides 100%
04/04/91	20 hrs @ 120 F	Н	
04/05/91	65 hrs @ 120 F	Н	
04/08/91	2 hrs @ 650 F	0	
04/08/91	1 hr @ -100 F	С	
04/08/91	40 hrs @ 120 F	Н	
04/10/91	1 hr @ -100 F	С	
04/10/91	2 hrs @ 650 F	0	
04/11/91	4 hrs @ 650 F	0	нот
04/11/91	14 hrs @ 150 F	Н	
04/12/91	1 hr @ -100 F	С	
04/12/91	65 hrs @ 120 F	Н	
04/15/91	1 hr @ -100 F	С	
04/15/91	40 hrs @ 115 F	Н	
04/17/91	1 hr @ -100 F	С	
04/17/91	2 hrs @ 650 F	0	
04/17/91	14 hrs 0 115 F	Н	
04/18/91	1 hr @ 750 F	0	
04/18/91	2 hrs @ 650 F	0	
04/18/91	17 hrs @ 120 F	Н	

#### MRC Fabrication/Conditioning/Test Form 91-1 Page 2 Set-Sample: 26R - 9621 Comments: A-203 steel Rusting Materials: Equip Definitions: Date Action Equip Results/Comments 04/19/91 2 hr @ 700 F 0 04/19/91 1 hr @ 620 F 0 04/19/91 18 hrs @ 120 F Н 04/20/91 1 hr 700 F 04/20/91 2 hrs @ 650 F 0 24 events 04/20/91 44 hrs @ 118 F 04/22/91 1 hr @ 790 F very hot 04/22/91 1 hr @ 650 F 04/22/91 15 hrs @ 115 F 04/23/91 3 hrs @ 780 F 0 very hot 04/23/91 17 hrs @ 118 F Н very humid 04/24/91 4 hrs @ 650 F 04/25/91 3 hrs @ 630 F 0 32 events 04/29/91 2 hrs @ 250 F 04/29/91 3 hrs 0 650 F 0 04/29/91 16 hrs @ 118 F H wet panels before exposure 04/30/91 1 hr @ 480 F 04/30/91 17 hrs @ 118 F Н 05/01/91 3 hrs @ 790 F 0 HOT 05/02/91 3 hrs @ 750 F HOT

Н

05/02/91 18 hrs @ 117 F

Set-Sampl	e: 26R - 9621	Comments: A	-203 rusting	Page 3
Date	Action	Equip	Results/comments	
05/03/91	3 hrs @ 690 F	0		
05/03/91	64 hrs 120 F	Н		
05/06/91	3 hrs @ 690 F	0		
05/06/91	17 hrs @ 120 F	Н	44 events (-100 to 790 F)	moderate rust
06/05/91	Cut into 9 pieces	(2x2) for gel	temperature tests	

Materials: No coating - for rusting and gel cleaning

Equip Def	initions:		
Date	Action	Equip	Results/Comments
03/25/91	MEK wash	*	Removes grease from mill-scale
03/25/91	Aqua regia clean	-	Acid remove mill scale both sides 100%
04/04/91	20 hrs @ 120 F	Н	
04/05/91	65 hrs @ 120 F	Н	
04/08/91	2 hrs @ 650 F	0	
04/08/91	1 hr 0 -100 F	С	
04/08/91	40 hrs @ 120 F	Н	
04/10/91	1 hr 0 -100 F	С	
04/10/91	2 hrs @ 650 F	0	
04/11/91	4 hrs @ 650 F	0	нот
04/11/91	14 hrs @ 150 F	Н	
04/12/91	1 hr @ -100 F	С	
04/12/91	65 hrs @ 120 F	Н	
04/15/91	1 hr 0 -100 F	С	
04/15/91	40 hrs @ 115 F	Н	
04/17/91	1 hr @ -100 F	С	
04/17/91	2 hrs 0 650 F	0	
04/17/91	14 hrs 0 115 F	Н	
04/18/91	1 hr 0 750 F	0	
04/18/91	2 hrs 0 650 F	0	
04/18/91	17 hrs @ 120 F	Н	

MR	C Fabrication/Cond	iitioning/Test Form 91-1	Page 2
Set-Sample: 26R - 9622	Comments: A-203		,
Materials:			
Equip Definitions:			
Date Action	 Equip	Results/Comments	
04/19/91 2 hr @ 700 F	0		••••••
04/19/91 1 hr @ 620 F	0		
04/19/91 18 hrs @ 120	F H		***************************************
04/20/91 1 hr 790 F	0	•	••••••
04/20/91 2 hrs @ 650 F	0	24 events	************
04/20/91 44 hrs @ 118	F H		••••••
04/22/91 1 hr @ 790 F	0	very hot	
04/22/91 1 hr @ 650 F	0	***************************************	
04/22/91 15 hrs @ 115	F H		
04/23/91 3 hrs @ 780 F	0	very hot	
04/23/91 17 hrs @ 118	F H	very humid	
04/24/91 4 hrs @ 650 F	0		
04/25/91 3 hrs @ 630 F	0	32 events	
04/29/91 2 hrs @ 250 F	0		
04/29/91 3 hrs @ 650 F	0		
04/29/91 16 hrs @ 118	F H	wet panels before exposure	'***********
04/30/91 1 hr @ 480 F	0		
04/30/91 17 hrs @ 118	F H		************
05/01/91 3 hrs @ 790 F	0	нот	
05/02/91 3 hrs @ 750 F	0	нот	
05/02/91 18 hrs @ 117	F H		

Set-Sampl	e: 26R - 9622 Co	mments: A	-203 rusting	Page 3
Date	Action	Equip	Results/comments	
05/03/91	3 hrs @ 690 f	0		
05/03/91	64 hrs 120 F	Н		
05/06/91	3 hrs @ 690 F	0		
05/06/91	17 hrs @ 120 F	Н	44 events (-100 to 790 F) modera	te rust
06/05/91	Cut into 9 pieces (2x	2) for gel	temperature tests	

Page 1

Set-Sample: 26R - 9623 Comments: A-203 steel Rusting

Materials: No coating

Equip Definitions:

ate	Action	Equip	Results/Comments
3/25/91	MEK wash	-	Removes grease from mill-scale
3/25/91	Aqua regia clean	-	Acid remove mill scale both sides 100%
04/04/91	20 hrs @ 120 F	Н	
4/05/91	65 hrs @ 120 F	Н	•••••••
4/08/91	2 hrs @ 650 F	0	
4/08/91	1 hr @ -100 F	С	••••••
04/08/91	40 hrs @ 120 F	Н	
4/10/91	1 hr @ -100 F	С	
4/10/91	2 hrs @ 650 F	0	•
04/11/91	4 hrs @ 650 F	0	нот
04/11/91	14 hrs @ 150 F	Н	
4/12/91	1 hr @ -100 F	С	
4/12/91	65 hrs @ 120 F	Н	
04/15/91	1 hr @ -100 F	С	
04/15/91	40 hrs @ 115 F	Н	
4/17/91	1 hr 0 -100 F	С	
04/17/91	2 hrs @ 650 F	0	
4/17/91	14 hrs @ 115 F	Н	
4/18/91	1 hr @ 750 F	0	
4/18/91	2 hrs @ 650 F	0	
4/18/91	17 hrs @ 120 F	Н	

	MRC	Fabrication/Cond	itioning/Test Form 91-1	Page 2
Set-Sampl	e: 26R - 9623	Comments: A-203	steel Rusting	1
Materials	:			
Equip Def	initions:			
Date	Action	Equip	Results/Comments	
	2 hr @ 700 F	0	**************************************	
04/19/91	1 hr @ 620 F	0		
04/19/91		Н		
04/20/91	1 hr 700 F	0	*************	
04/20/91	2 hrs @ 650 F	0	24 events	
04/20/91	44 hrs @ 118 F	Н	*****	
04/22/91	1 hr @ 790 F	0	very hot	
04/22/91	1 hr @ 650 F	0		
04/22/91	15 hrs @ 115 F	н		
04/23/91	3 hrs @ 780 F	0	very hot	
04/23/91	17 hrs @ 118 F	Н	very humid	
04/24/91	4 hrs @ 650 F	0		
04/25/91	3 hrs @ 630 F	0	32 events	
04/29/91	2 hrs @ 250 F	0		
04/29/91	3 hrs @ 650 F	0		
04/29/91	16 hrs @ 118 F	Н	wet panels before expos	ure
04/30/91	1 hr @ 480 F	0		
04/30/91	17 hrs @ 118 F	Н		
05/01/91	3 hrs @ 790 F	0	нот	
05/02/91	3 hrs 0 750 F	0	нот	

5/02/91 18 hrs @ 117 F H

Set-Sampl	e: 26R - 9621 C	omments: A-	-203 rusting	Page 3
Date	Action	Equip	Results/comments	
05/03/91	3 hrs @ 690 F	0		
05/03/91	64 hrs 120 F	Н		
05/06/91	3 hrs @ 690 F	0		
05/06/91	17 hrs @ 120 F	Н	44 events (-100 to 790 F) moder	ate rust
06/05/91	Cut into 9 pieces (2	x2) for gel	temperature tests	

Page 1

Set-Sample: 26R - 9624 Comments: A-203 steel Rusting

Materials: No coating Equip Definitions:

- 1	<del></del>
	•
-	
-	

Date	Action	Equip	Results/Comments
03/25/91	MEK wash	*	Removes grease from mill-scale
03/25/91	Aqua regia clean	-	Acid remove mill scale both sides 100%
04/04/91	20 hrs @ 120 F	Н	
04/05/91	65 hrs @ 120 F	Н	
04/08/91	2 hrs @ 650 F	0	
04/08/91	1 hr @ -100 F	С	
04/08/91	40 hrs @ 120 F	Н	
04/10/91	l hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	0	
04/11/91	4 hrs 0 650 F	0	нот
04/11/91	14 hrs @ 150 F	Н	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	Н	
04/15/91	1 hr @ -100 F	С	
04/15/91	40 hrs @ 115 F	Н	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs 0 650 F	0	
04/17/91	14 hrs @ 115 F	Н	•••••
04/18/91	1 hr 0 750 F	0	·
04/18/91	2 hrs @ 650 F	0	
04/18/91	17 hrs @ 120 F	Н	

Page 2

Set-Sample: 26R - 9624 Comments: A-203 steel Rusting

Materials:

114661 1413	•		
Equip Def	initions:		
Date	Action	Equip	Results/Comments
04/19/91	2 hr @ 700 F	0	
04/19/91	1 hr @ 620 F	0	
04/19/91	18 hrs @ 120 F	Н	
04/20/91	1 hr 700 F	0	
04/20/91	2 hrs @ 650 F	0	24 events
04/20/91	44 hrs @ 118 F	Н	
04/22/91	1 hr @ 790 F	0	very hot
04/22/91	1 hr @ 650 F	0	
04/22/91	15 hrs @ 115 F	Н	
04/23/91	3 hrs @ 780 F	0	very hot
04/23/91	17 hrs @ 118 F	Н	very humid
04/24/91	4 hrs @ 650 F	0	
04/25/91	3 hrs @ 630 F	0	32 events
04/29/91	2 hrs @ 250 F	0	
04/29/91	3 hrs @ 650 F	0	
04/29/91	16 hrs @ 118 F	Н	wet panels before exposure
04/30/91	1 hr @ 480 F	0	
04/30/91	17 hrs @ 118 F	Н	
05/01/91	3 hrs @ 790 F	0	нот
05/02/91	3 hrs @ 750 F	0	нот
05/02/91	18 hrs 0 117 F	Н	

Set-Sampl	e: 26R - 9624	Comments: A	-203 rusting	Page 3
Date	Action	Equip	Results/comments	
05/03/91	3 hrs @ 690 F	0		
05/03/91	64 hrs 120 F	Н		
05/06/91	3 hrs 0 690 F	0		
05/06/91	17 hrs @ 120 F	Н	44 events (-100 to 790 F) mo	derate rust
06/05/91	Cut into 9 pieces	(2x2) for gel	temperature tests	

Page 1

Set-Sample: 26R - 9625 Comments: A-203 steel Rusting

Materials: No coating Equip Definitions:

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1		
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Date	Action	Equip	Results/Comments
03/25/91	MEK wash	-	Removes grease from mill-scale
03/25/91	Aqua regia clean	<u>-</u>	Acid remove mill scale both sides 100%
04/04/91	20 hrs @ 120 F	Н	
04/05/91	65 hrs @ 120 F	Н	
04/08/91	2 hrs @ 650 F	0	
04/08/91	1 hr @ -100 F	С	
04/08/91	40 hrs @ 120 F	Н	
04/10/91	1 hr @ -100 F	С	
04/10/91	2 hrs @ 650 F	0	
04/11/91	4 hrs @ 650 F	0	нот
04/11/91	14 hrs @ 150 F	Н	
04/12/91	1 hr @ -100 F	С	
04/12/91	65 hrs @ 120 F	Н	
04/15/91	1 hr @ -100 F	С	
04/15/91	40 hrs @ 115 F	Н	
04/17/91	1 hr @ -100 F	С	
04/17/91	2 hrs @ 650 F	0	
04/17/91	14 hrs @ 115 F	Н	
04/18/91	1 hr @ 750 F	0	
04/18/91	2 hrs @ 650 F	0	
04/18/91	17 hrs @ 120 F	Н	

	MR	C Fabrication/C	onditioning/Test Form 91-1 Page 2
Set-Samp	le: 26R - 9625	Comments: A-20	3 steel Rusting
Material	s:		.   ///
Equip De	finitions:		
Date	Action	Equip	Results/Comments
04/19/91	2 hr @ 700 F	0	•••••
04/19/91	1 hr @ 620 F	0	•••••
04/19/91	18 hrs @ 120 F	Н	
04/20/91	1 hr 700 F	0	
04/20/91	2 hrs @ 650 F	0	24 events
04/20/91	44 hrs @ 118 F	Н	••••••
04/22/91	1 hr @ 790 F	0	very hot
04/22/91	1 hr @ 650 F	0	
04/22/91	15 hrs @ 115 F	Н	
04/23/91	3 hrs @ 780 F	0	very hot
04/23/91	17 hrs @ 118 F	Н	very humid
04/24/91	4 hrs @ 650 F	0	•
04/25/91	3 hrs @ 630 F	0	32 events
04/29/91	2 hrs @ 250 F	0	••••••
04/29/91	3 hrs @ 650 F	0	
04/29/91	16 hrs @ 118 F	Н	wet panels before exposure
04/30/91	1 hr @ 480 F	0	
04/30/91	17 hrs @ 118 F	Н	***************************************
05/01/91	3 hrs @ 790 F	0	нот
05/02/91	3 hrs @ 750 F	0	нот
05/02/01	10 has 0 117 E	ш	

05/02/91 18 hrs 0 117 F

Set-Sampl	e: 26R - 9625 C	omments: A-	203 rusting	Page 3
Date	Action	Equip	Results/comments	
05/03/91	3 hrs @ 690 F	0		
05/03/91	64 hrs 120 F	Н		
05/06/91	3 hrs @ 690 F	0		
05/06/91	17 hrs @ 120 F	Н	44 events (-100 to 790 F) moderat	e rust
06/05/91	Cut into 9 pieces (2	x2) for gel	temperature tests	

MRC Fabrication/Co	onditioning/Test Form 91-1 Page 1
Set-Sample: 26R - 9626 Comments: A-2	203 steel Rusting
Materials: No coating	
Equip Definitions:	
Date Action Equip	Results/Comments
03/25/91 MEK wash -	Removes grease from mill-scale
03/25/91 Aqua regia clean -	Acid remove mill scale both sides 100%
04/04/91 20 hrs @ 120 F H	
04/05/91 65 hrs @ 120 F H	
04/08/91 2 hrs @ 650 F 0	
04/08/91 1 hr @ -100 F C	
04/08/91 40 hrs @ 120 F H	
04/10/91 1 hr @ -100 F C	
04/10/91 2 hrs @ 650 F 0	
04/11/91 4 hrs @ 650 F 0	нот
04/11/91 14 hrs @ 150 F H	
04/12/91 1 hr @ -100 F C	
04/12/91 65 hrs @ 120 F H	•••••••••
04/15/91 1 hr @ -100 F C	
04/15/91 40 hrs @ 115 F H	
04/17/91 1 hr @ -100 F C	
04/17/91 2 hrs @ 650 F 0	
04/17/91 14 hrs @ 115 F H	
04/18/91 1 hr @ 750 F 0	
04/18/91 2 hrs @ 650 F 0	

04/18/91 17 hrs @ 120 F H

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# MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26R - 9626 Comments: A-203 steel Rusting

Materials:

<b>~.</b>		
rinitions:		
Action	Equip	Results/Comments
2 hr @ 700 F	0	
1 hr @ 620 F	0	
18 hrs @ 120 F	Н	
1 hr 700 F	0	
2 hrs @ 650 F	0	24 events
44 hrs @ 118 F	Н	
1 hr @ 790 F	0	very hot
1 hr @ 650 F	0	
15 hrs @ 115 F	Н	
3 hrs @ 780 F	0	very hot
17 hrs @ 118 F	Н	very humid
1 hrs @ 650 F	0	
3 hrs @ 630 F	0	32 events
2 hrs @ 250 F	0	
3 hrs @ 650 F	0	
16 hrs @ 118 F	Н	wet panels before exposure
1 hr 0 480 F	0	
Gel Cleaning	•	1/3 panel mostly cleaned in 2 hrs
3 hrs @ 790 F	0	нот
3 hrs @ 750 F	0	нот
18 hrs @ 117 F	Н	
	2 hr @ 700 F  1 hr @ 620 F  18 hrs @ 120 F  1 hr 700 F  2 hrs @ 650 F  44 hrs @ 118 F  1 hr @ 790 F  1 hr @ 650 F  15 hrs @ 115 F  3 hrs @ 780 F  17 hrs @ 118 F  4 hrs @ 650 F  3 hrs @ 650 F  3 hrs @ 650 F  16 hrs @ 118 F  1 hr @ 480 F  Gel Cleaning  3 hrs @ 790 F  3 hrs @ 750 F	Action Equip  2 hr @ 700 F

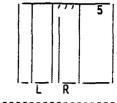
Set-Sample:	26R - 9626 Con	mments: A	-203 rusting	Page 3
Date Ac	tion	Equip	Results/comments	
05/03/91 3	hrs 0 690 F	0		
05/03/91 64	hrs 120 F	Н		
05/06/91 3	hrs @ 690 F	0		
05/06/91 17	hrs @ 120 F	Н	44 events (-100 to 790 F) moderat	te rust
06/05/91 Cu	t into 9 pieces (2x2	2) for gel	temperature tests	

Page 1

Set-Sample: 27 - 9701 Comments: A-203 steel

Materials:

Equip Definitions:



	**********										
Date	Action			Equip	R	esult	s/Comments	3	'-' <u>-</u>	' 'R ' -	'
03/25/91	MEK wash			•	R	emoves	grease f	rom mil	l-sca	le	
03/25/91	17 hrs @ 140	F		Н	R	usting	Panels				
03/26/91	23 hrs @ 140	F		Н							
03/27/91	2 hrs @ 650	F		0							
03/27/91	17 hrs @ 138	F		Н							
03/28/91	2 hrs @ 650	F		0							
03/28/91	21 hrs @ 120	F		Н						• • • • • •	
03/29/91	20 hrs @ 120	F		Н							
03/30/91	44 hrs @ 118	F		Н							
04/01/91	2 hrs @ 700	F	• • • • • •	0		нот			• • • • • •		
04/01/91	2 hrs 650 F			0						•====	
04/01/91	20 hrs @ 120	F		Н					• • • • •		
04/02/91	2 hrs @ 750	F		0	Н	от	121	.0.8 g	l2 eve	ents	
	PANEL SENT T	0 II	NGERSO	LL-RAND							
05/14/91	See pictures						120	8.9 g re	eturne	ed .	
	R (center)	40	ipm	35,000	PSI	Some	mill-scal	e flake:	s rema	ining	
	L	40	ipm	47,000	PSI	Some	mill-scal	e flakes	s rema	ining	
*******									•	• • • • • •	, *
	,				••			*			
	**********								• • • • • •		

#### Page 1 Set-Sample: 27 - 9702 Comments: A-203 steel Materials: Equip Definitions: Date Action Equip Results/Comments 03/25/91 MEK wash Removes grease from mill-scale 03/25/91 17 hrs @ 140 F Н Rusting Panels 03/26/91 23 hrs @ 140 F Н 03/27/91 2 hrs @ 650 F 0 03/27/91 17 hrs @ 138 F Н 03/28/91 2 hrs @ 650 F 0 03/28/91 21 hrs @ 120 F Н 03/29/91 20 hrs @ 120 F Н 03/30/91 44 hrs @ 118 F Н 04/01/91 2 hrs @ 700 F 0 HOT 04/01/91 2 hrs 650 F 0 04/01/91 20 hrs @ 120 F 04/02/91 2 hrs 0 750 F 0 HOT 1254.7 g 12 events PANEL SENT TO INGERSOLL-RAND 05/14/91 See pictures 1252.7 g returned R (Center) 60 ipm 47,000 PSI mill-scale removed 60 ipm 35,000 PSI some scale removed

MRC Fabrication/Conditioning/Test Form 91-1

	MRC Fabrica	tion/Con	ditioning	Test Form 91-1	Page 1
Set-Sampl	e: 27 - 9703	Comme	nts: A-203	steel8	7
Materials	:				
Equip Def	initions:				
				<u></u>	
Date	Action		Equip	Results/Comments	
03/25/91	MEK wash		-	Removes grease from mi	ll-scale
03/25/91	17 hrs @ 140	F	Н	Rusting Panels	
03/26/91	23 hrs @ 140	F	Н		
03/27/91	2 hrs @ 650 F		0		
03/27/91	17 hrs @ 138	F	Н		
03/28/91	2 hrs @ 650 F		0	*****************	
03/28/91	21 hrs @ 120	F	Н		
03/29/91	20 hrs @ 120	F	Н		
03/30/91	44 hrs @ 118	F	Н		
04/01/91	2 hrs @ 700 F		0	нот	
04/01/91	2 hrs 650 F		0		
04/01/91	20 hrs @ 120	F	Н		
04/02/91	2 hrs @ 750 F		0	HOT 1221.6 g	12 events
*************	PANEL SENT TO	INGERSO	LL-RAND		
05/14/91	See pictures			1218.8 g	
front	7 top	40 ipm	47,000 PS	I	
	center	40 ipm	35,000 PS	I	
backside	8 upper	20 ipm	47,000 PS	I Some scale removed	
	bottom	40 ipm	47,000 PS	I Some scale removed	
******					•••••
	***********				
	• • • • • • • • • • • • • • • • • • • •				

Page 1

Set-Sample: 27 - 9711 Comments: A-203 steel

Materials:

Equip Definitions:

ate	Action	Equip	Results/C	omments	
3/25/91	Gel cleaned 1 hr	-	Removes r	ust from mil	l-scale each side
3/25/91	17 hrs @ 140 F	Н	Rusting P	anels	
3/26/91	2 hrs 0 650 F	0			
3/26/91	19 hrs @ 140 F	Н	********		
3/27/91	2 hrs @ 650 F	0			
3/27/91	17 hrs @ 138 F	Н			• • • • • • • • • • • • • • • •
3/28/91	2 hrs @ 650 F	0			• • • • • • • • • • • • • • • • • • • •
3/28/91	21 hrs @ 120 F	Н			
3/29/91	20 hrs @ 120 F	Н			
3/30/91	44 hrs @ 118 F	Н			
4/01/91	2 hrs @ 700 F	0	нот		
4/01/91	2 hrs 650 F	0			
4/01/91	20 hrs @ 120 F	Н			• • • • • • • • • • • • • • • • • • • •
4/02/91	2 hrs @ 750 F	0	нот	1213.7 g	12 events
5/26/91	All rust removed at	: I-R			•••••

**CONCLUSIONS:** 

Only partial removal of mill-scale is acomplished at 35,000 PSI. Even at 47,000 PSI the mill-scale is not completely removed at speeds above 20 ipm. Speeds above 40 ipm leave rough grey colored marks. 40 ipm with 48,000 PSI is the best choice to clean off heavy rust (no mill-scale) as well as MARB coating removal.

No variations in orifice diameter or R.P.M. were done.

	MRC Fa	brication/Cond	itioning/Test F	form 91-1	Page 1
Set-Sampl	e: 27 - 9712 C	Comments: A-203	steel		
Materials	:				
Equip Def	initions:				
Date	Action	Equip	Results/Commen	its	ll
03/25/91	Gel cleaned 1 hr	-	Removes rust f	rom mill-	scale each side
03/25/91	17 hrs @ 140 F	Н	Rusting Panels		*************
03/26/91	2 hrs @ 650 F	0			
03/26/91	19 hrs @ 140 F	Н			
03/27/91	2 hrs @ 650 F	0			
03/27/91	17 hrs @ 138 F	Н			
03/28/91	2 hrs @ 650 F	0			
03/28/91	21 hrs @ 120 F	Н			
03/29/91	20 hrs @ 120 F	Н			
03/30/91	44 hrs @ 118 F	Н	******		
04/01/91	2 hrs @ 700 F	0	нот		
04/01/91	2 hrs 650 F	0			
04/01/91	20 hrs @ 120 F	Н	• • • • • • • • • • • • • • • • • • • •		
04/02/91	2 hrs @ 750 F	0	HOT 1	234.2 g	l2 events
	PANEL SENT TO ING	ERSOLL-RAND			
05/16/91	All rust removed	at I-R	***********		
		*******	• • • • • • • • • • • • • • • • •		
			• • • • • • • • • • • • • • • • • • • •		

	HRU	rabrication/cond	teroning/lest roum 91-1	raye 1
Set-Sampl	e: 27 - 9713	Comments: A-203	steel	ı <del> , , , , ,</del> ,
Materials	<b>:</b> :			
Equip Def	initions:			
Date	Action	Equip	Results/Comments	
03/25/91	Gel cleaned 1 h	r -	Removes rust from mill-	-scale each side
03/25/91	17 hrs @ 140 F	Н	Rusting Panels	
03/26/91	2 hrs @ 650 F	0		
03/26/91	19 hrs @ 140 F	Н		
03/27/91	2 hrs @ 650 F	n		
03/27/91	17 hrs @ 138 F	u		
03/28/91	2 hrs @ 650 F			
03/28/91	21 hrs @ 120 F	н		
03/29/91	20 hrs @ 120 F	Н		
03/30/91	44 hrs @ 118 F	н		•
04/01/91		n	нот	
04/01/91	2 hrs 650 F	0		
04/01/91	20 hrs @ 120 F	Н		
04/02/91	2 hrs @ 750 F	0	HOT 1254.6 g	12 events
	PANEL SENT TO I	NGERSOLL-RAND		
05/16/91	All rust remov	ed at I-R		
*******				
*******				
				• • • • • • • • • • • • • • • • • • • •
	•			

•	MRC	Fabrication/Cond	litioning/Test	Form 91-1	Page 1
Set-Sampl	e: 27 - 9721	Comments: A203	Steel		2
Materials	::				′′′ 0
Equip Def	initions:				
Date	Action	Equip	Results/Comm	ents '	
03/22/91	Acid clean	-	Aqua regia c	lean to remo	ve mill-scale
03/25/91	17 hrs @ 140 F	Н	Rusting Pane	ls	
03/26/91	23 hrs @ 140 F	Н	***********		
03/27/91	2 hrs @ 650 F	0			
03/27/91	17 hrs @ 138 F	Н			
03/28/91	2 hrs @ 650 F	0	~~~~		
03/28/91	21 hrs @ 120 F	н			
03/29/91	20 hrs @ 120 F	Н			
03/30/91	44 hrs @ 118 F	н			••••••
04/01/91	2 hrs @ 700 F	0	нот		
04/01/91	2 hrs 650 F	0	***********		
04/01/91	20 hrs @ 120 F	Н			
04/02/91	2 hrs @ 750 F	0	HOT	1251.0 g 1	2 events
	PANEL SENT TO I	NGERSOLL-RAND			
05/14/91	See pictures		***********	1250.8 g	
	Center 60 i	pm 47,000 PSI			
	Bottom 60 i	pm 35,000 PSI	*		
05/20/91	Gel cleaned fo	r MARB ambient h	ardness tests	(Set 28)	• • • • • • • • • • • • • • • • • • • •
*******			,		
			,		
					••••••

	MIC	raprication/	conditioning	/Test Form 91-1	Page 1
Set-Sampl	e: 27 - 9722	Comments: A	1203 Steel		<u> </u>
Materials	:				
Equip Def	initions:				
Date	Action			/Composite	
		Equip		/Comments	
	Acid clean	-		gia clean to rem	ove mill-scale
03/25/91	17 hrs @ 140 F	Н	Rusting	Panels	
03/26/91	23 hrs @ 140 F	Н			
03/27/91	2 hrs @ 650 F	0			
03/27/91	17 hrs @ 138 F	Н			
03/28/91	2 hrs @ 650 F	0			
03/28/91	21 hrs @ 120 F	Н			
03/29/91	20 hrs @ 120 F	Н			
03/30/91	44 hrs @ 118 F	Н			
04/01/91	2 hrs @ 700 F	0	нот		
04/01/91	2 hrs 650 F	0			
04/01/91	20 hrs @ 120 F	Н			
04/02/91	2 hrs 0 750 F	0	нот	1 <b>246</b> .7 g	l2 events
	PANEL SENT TO I	NGERSOLL-RAN	ID		
05/14/91	See pictures			1246.3 g	
	<b>Upper 40</b> i	pm 35,00	O PSI		
	Bottom 40 i	pm 47,00	O PSI	Best rust	cleaning
05/20/91	Gel cleaned fo	r MARB ambie	ent hardness	tests (Set 28)	*************

	MRC	Fabrication/Cond	litioning/Test Form 91-1	l Page 1
Set-Sampl	e: 27 - 9723	Comments: A203	Steel	. 4
Materials	:	•		,,, 0
Equip Def	initions:			
Date	Action	Equip	Results/Comments	
03/22/91	Acid clean	-	Aqua regia clean to re	move mill-scale
03/25/91	17 hrs @ 140 F	Н	Rusting Panels	
03/26/91	23 hrs @ 140 F	Н		
03/27/91	2 hrs @ 650 F	0		
03/27/91	17 hrs @ 138 F	Н		
03/28/91	2 hrs @ 650 F	0		
03/28/91	21 hrs @ 120 F	Н		
03/29/91	20 hrs @ 120 F	Н		
03/30/91	44 hrs @ 118 F	Н		
04/01/91	2 hrs @ 700 F	0	нот	
04/01/91	2 hrs 650 F	0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
04/01/91	20 hrs @ 120 F	Н		
04/02/91	2 hrs @ 750 F	Ö	HOT 1226.9 g	12 events
******	PANEL SENT TO I	NGERSOLL-RAND		
05/14/91	See pictures		1226.6 g	
	upper 100 ipm			
	bottom 100 ipm	47,000 PSI	very rough ma	rks ))))))
05/20/91	Gel cleaned fo	r MARB ambient h	ardness tests (Set 28)	
********		••••		***************************************
*		******		***************************************
	*******			***************

MRC	raprication/cond	ittioning/lest form 9.	I-I Page I
e: 27 - 9731	Comments: A203	Steel	1
•			
initions:			
Action	Eguip	Results/Comments	
			remove mill-scale
		Formerly Panel 910	3
17 hrs @ 140 F	Н	Rusting Panels	
23 hrs @ 140 F	Н		
2 hrs @ 650 F	0		
17 hrs @ 138 F	Н		
2 hrs @ 650 F	0		
21 hrs @ 120 F	Н		
20 hrs @ 120 F	Н		
44 hrs @ 118 F	Н		
2 hrs @ 700 F	0	нот	
2 hrs 650 F	0		
20 hrs @ 120 F	Н		
2 hrs @ 750 F	0	HOT 1192.4	g 12 events
PANEL SENT TO	INGERSOLL-RAND	1191.9	g returned
upper 40 ipm	47,000 PSI	Best MARB re	moval
center 40 ipm	35,000 PSI		
	e: 27 - 9731 : initions:  Action Acid clean  17 hrs @ 140 F 23 hrs @ 140 F 2 hrs @ 650 F 17 hrs @ 138 F 2 hrs @ 650 F 21 hrs @ 120 F 20 hrs @ 120 F 44 hrs @ 118 F 2 hrs @ 700 F 2 hrs @ 750 F PANEL SENT TO upper 40 ipm	e: 27 - 9731	: initions:  Action

	MKL	rabrication/cond	itioning/Test Form 91	-1 Page 1
Set-Sampl	e: 27 - 9733	Comments: A203	Steel	· · · · · · · · · · · · · · · · · · ·
faterials	::			
Equip Def	initions:			
Date	Action	Equip	Results/Comments	
03/22/91	Acid clean	-	Aqua regia clean to	remove mill-scale
*		•	Formerly panel 9401	
03/25/91	17 hrs @ 140 F	Н	Rusting Panels	
03/26/91	23 hrs @ 140 F	Н		
03/27/91	2 hrs @ 650 F	0		
03/27/91	17 hrs @ 138 F	H		
03/28/91	2 hrs @ 650 F	0		
03/28/91	21 hrs @ 120 F	Н		
03/29/91	20 hrs @ 120 F	Н		
03/30/91	44 hrs @ 118 F			
04/01/91	2 hrs @ 700 F	0	нот	
04/01/91	2 hrs 650 F	0		
04/01/91	20 hrs @ 120 F	Н		
04/02/91	2 hrs @ 750 F	0	HOT 1200.8	g 12 events
	PANEL SENT TO	INGERSOLL-RAND		
 05/16/01	Total rust rome	oval by water bla		

MRC Fabrication/Conditioning/Test Form 91-1 Page 1 Set-Sample: 28 - 9800 Comments: A-203 steel Materials: KEN'S MARB 20 + clay Equip Definitions: Equip Results/Comments 05/22/91 Clean Gel clean thoroughly I/R panel 05/22/91 Coat Brush coat with Ken's mixture of MARB Ambient curing 05/22/91 Cure 05/27/91 Thickness 0.6 mils (0.25-1.1) M Panel looks good but cures slowly at lab temperatures as tested daily for scratch hardness for a month. In addition, Aluminum can be wiped off the surface even 8 months later, although the coating is hard.

Page 1

Set-Sample: 28 - 9801 Comments: A-203 steel

Materials: MARB4 Equip Definitions:

Date	Action	Equip	Results 'Commenus
05/22/91	Clean	-	Gel clean thoroughly I/ੀ panel
05/22/91	Coat	-	Brush coat with Ken's mixture of MARB
05/22/91	Cure	*	Ambient curing
05/27/91	Thickness	М	0.6 mils (0.25-1.1)
*******	Panel lo	ooks good but cures	slowly at lab temperatures as tested daily
********	for scra	itch hardness for a	month. In addition, Aluminum can be wiped
	off the	surface even 8 mont	ths later, although the coating is hard.
*******			
	*********		
*******			
		•	
		•	
	•		•••••
	•=======		

	MRC Fabricat	ion/Conditioning/	Test Form 91-1 Page 1
Set-Sampl	e: 28 - 9802	Comments: A-203	steel
Materials	: MARB4 + Spang	le	
Equip Def	initions:		
Date	Action	Equip	Results/Comments
05/22/91		-	Gel clean thoroughly I/R panel
05/22/91	Coat	-	Brush coat with Ken's mixture of MARB
05/22/91	Cure	•	Ambient curing
05/27/91	Thickness	М	0.6 mils (0.25-1.1)
	Panel look:	s good but cures	slowly at lab temperatures as tested daily
	for scratch		month. In addition, Aluminum can be wiped
		rface even 8 mont	hs later, although the coating is hard.
-			
			••
	+		

	MR	C Fabrication/Cond	litioning/Test Form 91-1	Page 1
Set-Sampl	e: 28 - 9803	Comments: A-203	steel	
Materials	: MARB-4 + cla	ay	ı	1
Equip Def	initions:			
Date	Action	Equip	Results/Comments	
05/22/91		-	Gel clean thoroughly I/R pa	anel
05/22/91	Coat		Bruch coat with Kon's mixtu	re of MARB
05/22/91				
05/27/91	Thickness	M	0 6 mils (0 25-1 1)	
********			slowly at lab temperatures as	
	for scrate	ch hardness for a	month. In addition, Alumin	um can be wiped
	off the s	urface even 8 mont	ths later, although the coati	ng is hard.
•				
			,	

	MRC Fabi	rication/Cond	litioning/Test Form 91-1	Page 1
Set-Sampl	e: 28 - 9804 Com	nments: A-203	steel	7
Materials	: MARB4 with Spangle	•	: ' '	· :
Equip Def	initions:		1	::
Date	Action	Equip	Results/Comments	uncoated
05/22/91	clean		Thoroughly gel clean I/R pa	nel (leftside)
05/30/91	coat		Brush coat MARB4/spangle	
05/30/91	1 hr @ 485 F	0	cure	***********
05/30/91	17 hrs @ 120 F	Н		
05/31/91	1 hr @ -100 F	С		***********
06/03/91	3 hrs @ 650 F	0		
06/03/91	22 hrs @ 140 F	Н		
06/04/91	66 hrs @ 120 F	Н		
06/12/91	5 hrs @ 600 F	0		
06/13/91	4 hrs @ 600 F	0		
06/13/91	l hr @ -120 F	С	manual	
06/13/91	40 hrs @ 120 F	Н		
06/15/91	2 hrs @ 600 F	0		
06/17/91	2 hrs @ 650 F	0		
06/17/91	1 hr @ -100 F	С		
06/17/91	18 hrs @ 120 F	Н		
06/18/91	5 hrs @ 650 F	0		
06/20/91	Pictures over	I/R cleaned	paint 15 events (-120 t	o 650 F)
07/08/91	Test (Location 1)	A	300 PSI (100% cohesive)	
~~~~~			Coating in very good condit	ion

Set-Sample: 28 - 9805 Comm	ments: A-203 steel
----------------------------	--------------------

Materials: MARB4 with Spangle

Equip Definitions:

				F	
:		,,,	:	Α	:
:		1	:	I	:
:			:	L	:
:					:
:	I/R	I/R	m	i1	1
:	•	:	:		:

Date	Action	Equip	Results/Comments
			Ingersol-rand panel
05/30/91	clean		Gel clean entire panel
05/30/91	coat		Spraycoat MARB4 with spangle (top only)
05/30/91	1 hr @ 485 F	0	cure
05/30/91	17 hrs @ 120 F	Н	
05/31/91	1 hr @ -100 F	С	
06/03/91	3 hrs @ 650 F	0	
06/03/91	22 hrs @ 140 F	Н	
06/04/91	66 hrs @ 120 F	н	
06/12/91	5 hrs @ 600 F	0	
06/13/91	4 hrs @ 600 F	0	
06/13/91	1 hr @ -120 F	С	manual
06/13/91	40 hrs @ 120 F	Н	
06/15/91	2 hrs @ 600 F	0	
06/17/91	2 hrs @ 650 F	0	
06/17/91	1 hr @ -100 F	С	
06/17/91	18 hrs @ 120 F	Н	
06/18/91	5 hrs @ 650 F	0	
06/20/91	Pictures 1	events (-	120 to 650 F) Flaking over mill scale,lef
07/08/91	Test (Location 1)	Α	550 PSI (100% C) over I/R cleaned